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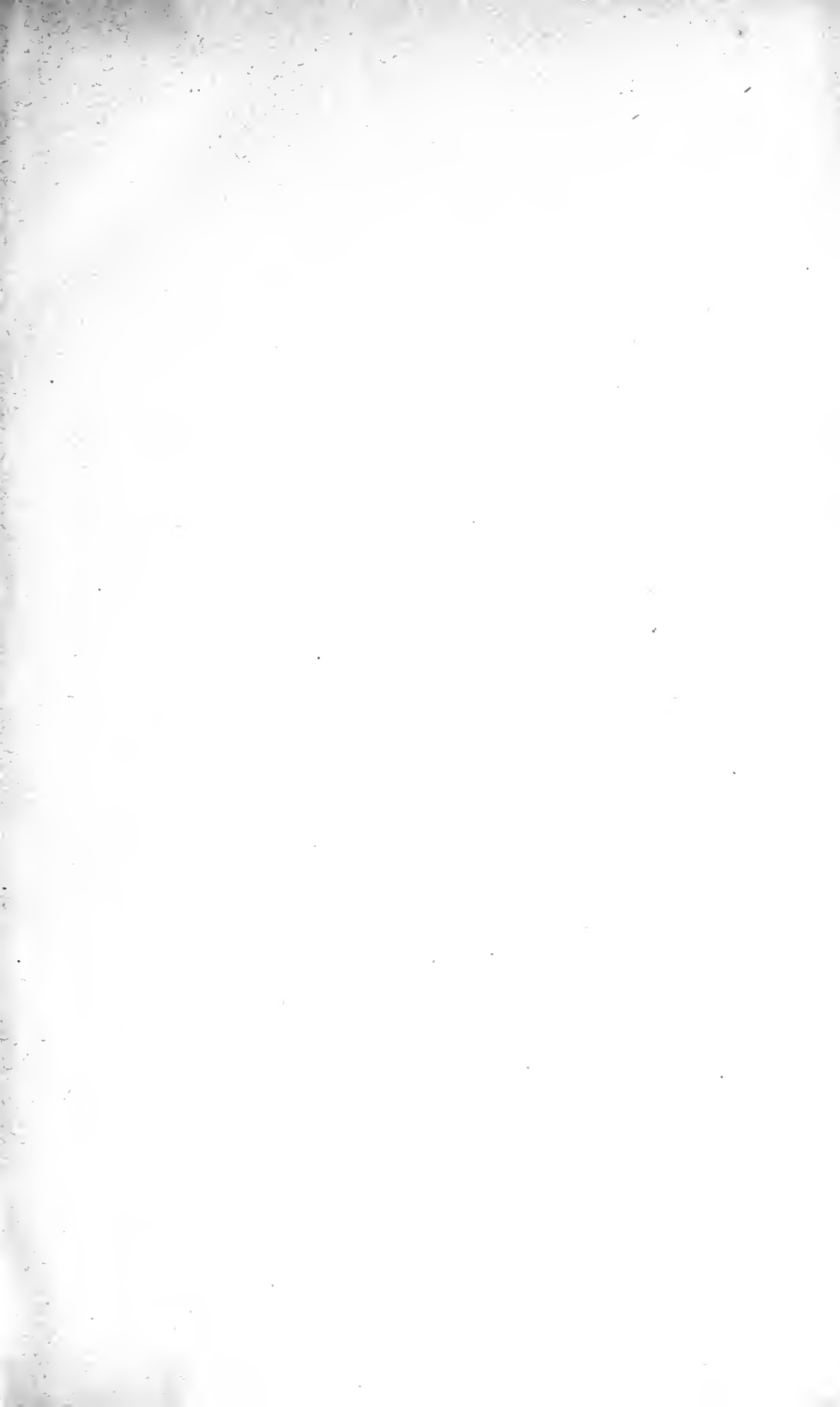
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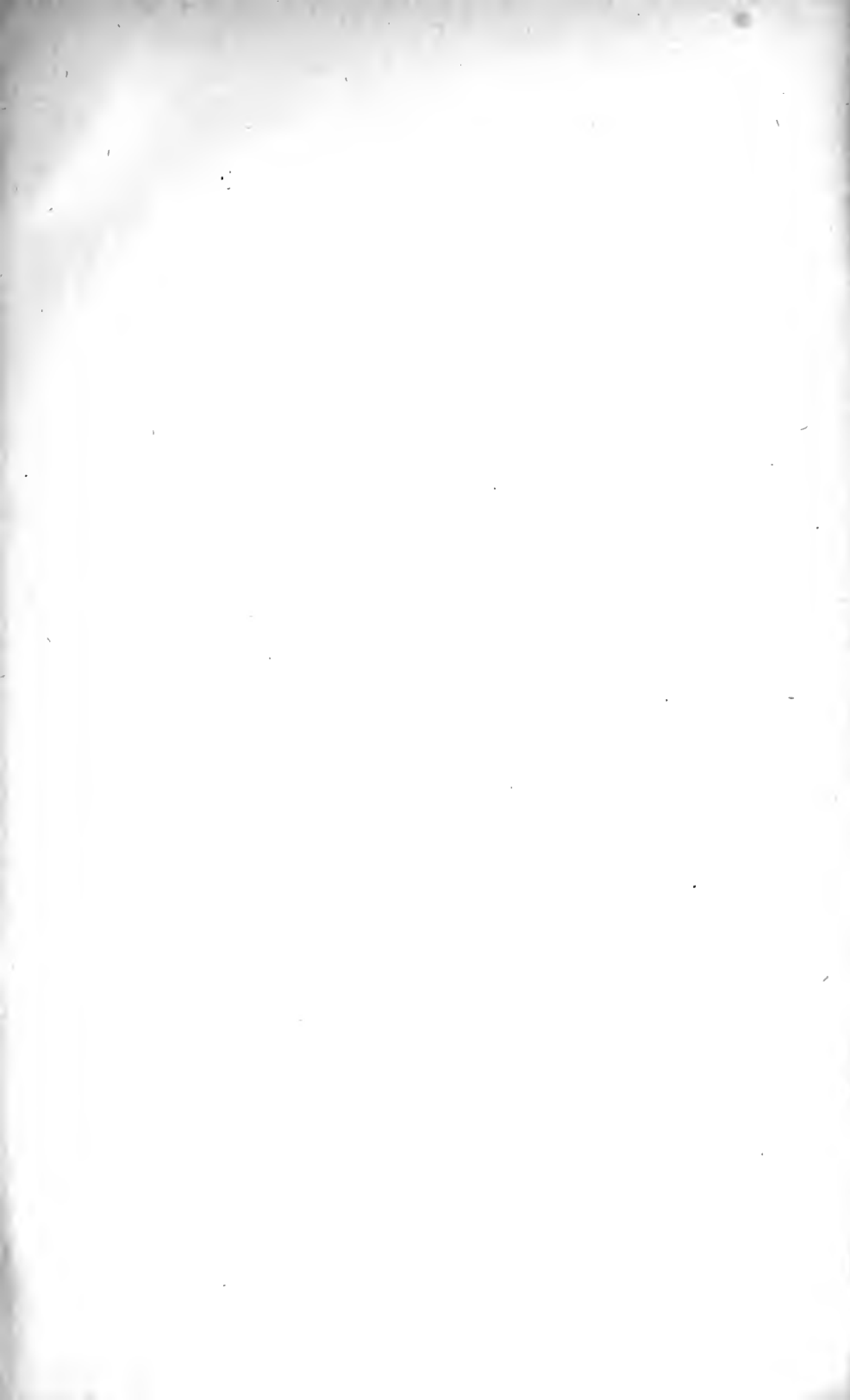
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# HAVERFORD COLLEGE



1895-96.

## THE FACULTY

desires to place a copy of the Annual Catalogue in the hands of every alumnus and member of the corporation. It is requested that all omissions and errors whether of names or degrees be reported to the Secretary of the College.

# CATALOGUE

OF

# HAVERFORD COLLEGE

(HAVERFORD P. O., PA.)

1895-96.



MT. HOLLY, PA.  
PRESS OF MT. HOLLY PRINTING CO  
1895.

## Calendar.

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College Year 1895-96 began . . . . .	9th Mo. 25
Winter Recess begins . . . . .	12th Mo. 21
Winter Term begins, 1896* . . . . .	1st Mo. 6
Mid-year Examinations begin . . . . .	1st Mo. 23
Second Half-year begins . . . . .	2d Mo. 3
Junior Exercises . . . . .	4th Mo. 15
Spring Recess begins . . . . .	4th Mo. 16
Spring Term begins* . . . . .	4th Mo. 28
Alumni Meeting . . . . .	6th Mo. 10
Examinations for Admission, 9.30 A. M. . . . .	6th Mo. 11
Senior Class Day . . . . .	6th Mo. 11
Commencement Day, 1896 . . . . .	6th Mo. 12

## VACATION.

Examinations for Admission, 9.30 A. M. . . . .	9th Mo. 22
College Year 1896-97 begins* . . . . .	9th Mo. 23
Winter Recess begins . . . . .	12th Mo. 23
Winter Term begins 1897* . . . . .	1st Mo. 5
Second Half-year begins . . . . .	2d Mo. 1
Spring Recess begins . . . . .	4th Mo. 15
Commencement Day, 1897 . . . . .	6th Mo. 11

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\* The first recitations are due promptly at *half-past nine o'clock* at the beginning of each term. No absences from them are excused, unless clearly unavoidable.

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## History and Description.

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IN the spring of 1830, a meeting of a few Friends in Philadelphia, shortly followed by a similar meeting in New York, originated Haverford School. The joint committee expressed the object of the effort as follows: "The members of the Society of Friends, having hitherto labored under very great disadvantages in obtaining for their children a guarded education in the higher branches of learning, combining the requisite literary instruction with a religious care over the morals and manners of the scholars, . . . and carefully preserving them from the influence of corrupt principles and evil communications, it is therefore proposed that an institution be established in which the children of Friends shall receive a liberal education in ancient and modern literature, and the mathematical and other sciences."

The \$40,000 supposed to be necessary was raised without great effort, and the committee went out to seek a location. They say: "We wished to procure a farm in a neighborhood of unquestionable salubrity—within a short distance of a Friends' meeting—of easy access from this city at all seasons of the year, . . . and that was recommended by the beauty of the scenery and a retired situation." They then go on to say that of the many places presented to them the only one which combined all the advantages was one of 198½ acres (since increased to 215), "near the eight-mile stone on the Lancaster Turnpike." They explain the present and prospective merits of the farm, the beauty of the natural woods, the unfailing springs of purest water, the nearness to the new Pennsylvania Railroad, in words which the succeeding half-century has amply justified.

On the 28th of Tenth month, 1833, the school opened with 21 students. Provision had been made for three teachers and a superintendent.

"A Teacher of Ancient Languages and Ancient Literature.

"A Teacher of English Literature, and Mental and Moral Philosophy.

“A Teacher of Mathematics and Natural Philosophy.”

The Superintendent was to have charge of the government, order, and domestic economy of the family.

The regulations of the new school were rigid. The bounds and time of the boys were very strictly marked out. All the details of the daily programme were arranged with great care; and if the elaborate provision of a number of wise men for the normal growth of students could convert boys into perfect men, the students of Haverford of fifty years ago had every advantage.

The High School thus established grew rapidly into prosperity and debt. The charges were low, the teachers were liberally paid, and the years which followed were marked by a constant endeavor to produce a maximum of good fruits from very limited funds. The deficiencies were made up in a liberal spirit, and a constant growth maintained by frequent subscriptions. All the time the school was justifying the effort by the quality of its results, and making for itself an increasing number of friends.

One of the first acts of the committee, after the absolute necessities of the school were provided for, was to construct a gymnasium, and make arrangements for systematical physical work. They were determined that the advantage gained by the salubrity of the surroundings should not be lost for want of exercise. Under their care the lawn was graded at great expense, and foreign and native trees set out, with the design to make it a great arboretum. Cricket, a game not known elsewhere in America, was introduced, and has flourished since. A greenhouse and flower-garden were established and maintained for twenty years by the work of the boys. The ideas that have done harm elsewhere, that schools were places for mental development only, had no foothold here, but morals, muscles, and senses received their due share of culture.

In 1845 a temporary suspension was decreed, to allow the funds to accumulate and give time for the collection of an endowment, which suspension lasted for three years. In 1852 the observatory was built, and supplied with an 8-inch equatorial and 4-inch transit. In 1856 the school was changed to a



college, and authorized by the Legislature to grant degrees, but previous to this time the course had been as extended as in many colleges. It was still hampered with a large preparatory department, which was not abolished till 1861. In 1863 the Alumni Hall and Library were built. In 1876-7 Barclay Hall, containing private dormitories and study-rooms, was erected, at a cost of \$82,000, which was collected by subscription. The Chemical Laboratories were improved in 1878. The new Observatory was built in 1883, the Mechanical Laboratory established in 1884, and a new building erected in 1890; the Biological Laboratory was established in 1886, and the Physical Laboratory in 1888. Chase Hall, for lecture and recitation-rooms, was built in 1888, and the Cricket Shed in 1893.

During this time Haverford had developed into a fully-organized college. Many rules, adapted to boys of a boarding-school age, had been modified or abandoned, though enough of restraint was retained to provide against demoralization. The standard of admission was raised. Students of any denomination were admitted, though Friends still retained the general control. The number of teachers was increased five-fold. By various donations and bequests the endowment fund was enlarged. The annual charge was increased from \$200 to \$500,\* which still fails to represent what the college has to pay for professors' salaries and board and care of students. Retaining the old idea of a "guarded education" and "a religious care over morals and manners," the college has sought to effect these results, and has measurably succeeded, rather by appeals to Christian principle and manliness than by arbitrary power.

In Barclay Hall, the hall of residence, two students occupy a study-room, and each has his private, adjoining bed-room. A few single rooms are also provided. Recitation-rooms, laboratories, and dining-room are in Founders' Hall. The Library and Observatory are in separate buildings near by. Some of the professors live in the halls with the students, and others have cottages on the grounds.

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\* The price may vary, depending on the situation of the room, from \$400 to \$525. Most of the rooms involve a payment of \$500.

The college has a remarkably pleasant and healthful location in the township of Haverford, Delaware County,\* Pa., nine miles west of Philadelphia, on the Pennsylvania Railroad. The buildings are surrounded by grounds of about sixty acres, tastefully laid out, and adorned with well-kept lawns, and a great variety of trees and shrubbery. These grounds comprise excellent fields for cricket, base-ball, foot-ball, tennis, and other field games, a running and bicycle track, and a pond for skating.

The courses of study are designed to give a liberal education. Their scope will be seen on the following pages. Religious instruction is carefully provided. In addition to the daily reading of the Holy Scriptures, recitations in the English or Greek New Testament or in Scripture History are required of the student once a week. By exposition and collateral information the instructors endeavor to enforce the true meaning of the lessons. Haverford college desires to inculcate the simple truths of the Christian religion.

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\* Haverford *Post-Office* is in Montgomery County.

## Corporation.

---

*President,*

T. WISTAR BROWN,  
233 Chestnut Street, Philadelphia.

*Secretary,*

GEORGE VAUX, JR.,  
Girard Building, Philadelphia.

*Treasurer,*

ASA S. WING,  
409 Chestnut Street, Philadelphia.

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WILLIAM H. JENKS,

FRANCIS A. WHITE.

*Secretary of the Board,*

HOWARD COMFORT,  
529 Arch Street, Philadelphia.

---

*Executive Committee.*

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JAMES WHITALL,  
DAVID SCULL,  
EDWARD BETTLE, JR.,  
PHILIP C. GARRETT,

CHARLES ROBERTS,  
JUSTUS C. STRAWBRIDGE,  
HOWARD COMFORT,  
ASA S. WING,  
RICHARD WOOD.

## Faculty.

---

ISAAC SHARPLESS, SC. D., LL. D., PRESIDENT,  
and Professor of Ethics.

ALLEN C. THOMAS, A. M., LIBRARIAN,  
and Professor of History.

LYMAN BEECHER HALL, PH. D.,  
John Farnum Professor of Chemistry.

SETH K. GIFFORD, A. M.,  
Professor of Greek.

LEVI T. EDWARDS, A. M.,  
Professor of Mechanics and Physics.

WILLIAM COFFIN LADD, A. M.,  
Professor of French.

FRANCIS B. GUMMERE, PH. D.,  
Professor of English and German.

FRANK MORLEY, A. M.,  
Professor of Pure Mathematics.

ERNEST WILLIAM BROWN, A. M.,  
Professor of Applied Mathematics.

WILFRED P. MUSTARD, PH. D.,  
Professor of Latin.

WILLIAM H. COLLINS, A. M.,  
Director of the Observatory.

*HAVERFORD COLLEGE.*

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WILLIAM DRAPER LEWIS, PH. D.,

Instructor in Political Science.

HENRY S. PRATT, PH. D.,

Instructor in Biology (David Scull Foundation).

JAMES A. BABBITT, A. B., REGISTRAR,

and Instructor in Physical Training.

RUFUS M. JONES, A. M.,

Instructor in Philosophy and History.

EMORY R. JOHNSON, PH. D.,

Instructor in Economics.

CLARENCE GILBERT HOAG, A. B.,

Instructor in English.

ALLEN CURRY THOMAS, S. B.,

Assistant in the Drawing Room and Shop.

JAMES LINTON ENGLE, A. B.,

Assistant in the Library.

THOMAS HARVEY HAINES,

Secretary of the College.

## Graduate Students.

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BLAIR, AUGUSTINE WILBERFORCE, S. B. (Guilford, 1890),  
 S. B. (Haverford, 1892.) Archdale, N. C.  
*Major Subject*—Chemistry.

CHARLES, ARTHUR MATTHEW, S. B. (Earlham, 1894),  
 Richmond, Ind.  
 Earlham Fellow.  
*Major Subject*—English.

ENGLE, JAMES LINTON, A. B. (Haverford, 1895),  
 Haddonfield, N. J.  
*Major Subject*—Latin.

HASTINGS, WILLIAM W., A. B. and A. M. (Maryville, '86 & '92).  
 (A. M. Haverford, 1894.)  
 Graduate Union Theological Seminary.  
 West New Brighton, S. I., N. Y.  
*Major Subject*—Semitic Languages.

HUNT, LUTHER MILTON, S. B. (Wilmington, 1895),  
 Wilmington, Ohio.  
 Wilmington Fellow.  
*Major Subject*—American History.

PATTERSON, CLEMENT FINNEY, B. PH. (Penn, 1895),  
 Oskaloosa, Iowa.  
 Penn Fellow.  
*Major Subject*—Mechanics.

THOMAS, ALLEN CURRY, S. B. (Haverford, 1895),  
 Philadelphia, Pa.  
*Major Subject*—American History.

## SENIOR CLASS.

---

Adams, Douglas Howe,	<i>Philadelphia, Pa.,</i>	Arts.
Allen, George Raymond.	<i>Greensboro, N. C.,</i>	Arts.
Alsop, William Kite,	<i>Germanatown, Pa.,</i>	Science.
Bettle, William Henry,	<i>Oaklyn, N. J.,</i>	Mechanical Eng.
Brecht, Samuel Kriebel,	<i>Worcester, Pa.,</i>	Science.
Brooke, Mark,	<i>Radnor, Pa.,</i>	Science.
Clauser, Milton,	<i>Haverford, Pa.,</i>	Arts.
Coca, Arthur Fernandez,	<i>Wayne, Pa.,</i>	Arts.
Deuell, George Henry,	<i>Bangall, N. Y.,</i>	Arts.
Haines, Thomas Harvey,	<i>Westtown, Pa.,</i>	Arts.
Hartley, Albert Dempsey,	<i>Camden, N. J.,</i>	Science.
Hinchman, Charles Russell,	<i>Philadelphia, Pa.,</i>	Science.
Hunsicker, J. Quincy, Jr.,	<i>Philadelphia, Pa.,</i>	Science.
Lester, John Ashby,	<i>Pasadena, Cal.,</i>	Arts.
Maier, Paul D. I.,	<i>Philadelphia, Pa.,</i>	Arts.
Middleton, Samuel,	<i>Wilmington, Del.,</i>	Mechanical Eng.
Owen, Horace Thornburgh,	<i>Clinton, N. Y.,</i>	Arts.
Scattergood, Joseph Henry,	<i>Philadelphia, Pa.,</i>	Arts.
Sharpless, William Clemson,	<i>West Chester, Pa.,</i>	Special.
Way, Marshall Warren,	<i>West Chester, Pa.,</i>	Science.
Webster, Homer Jeptha,	<i>Quaker City, Ohio,</i>	Science.
Wood, L. Hollingsworth,	<i>Mt. Kisco, N. Y.,</i>	Arts.

## JUNIOR CLASS.

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Brown, Richard Cadbury,	<i>Westtown, Pa.,</i>	Arts.
Burns, William John,	<i>Bryn Mawr, Pa.,</i>	Science.
Collins, Alfred Morris,	<i>Philadelphia, Pa.,</i>	Special.
Darlington, Morton Pennock,	<i>Norway, Pa.,</i>	Arts.
Detwiler, Frank Hughes,	<i>Norristown, Pa.,</i>	Science.
Field, Elliot,	<i>Wayne, Pa.,</i>	Arts.
Hoffman, Benjamin Rose,	<i>Philadelphia, Pa.,</i>	Arts.
Howson, Charles Henry,	<i>Wayne, Pa.,</i>	Arts.
Hume, John Elias,	<i>Philadelphia, Pa.,</i>	Arts.
Hutton, Walter Pandrich,	<i>Berwyn, Pa.,</i>	Special.
Jacobs, Francis Brinton,	<i>West Chester, Pa.,</i>	Science.
Maxfield, Francis Norton,	<i>Amesbury, Mass.,</i>	Arts.
McCrea, Roswell Cheney,	<i>Norristown, Pa.,</i>	Arts.
Nason, Charles Dickens,	<i>Philadelphia, Pa.,</i>	Science.
Palmer, George Martin,	<i>Media, Pa.,</i>	Science.
Rodney, Warren Brown,	<i>Broomall, Pa.,</i>	Arts.
Round, Julian Mills,	<i>Elmira, N. Y.,</i>	Arts.
Tatnall, Charles Gibbons,	<i>Coatesville, Pa.,</i>	Special.
Thacher, Frank William,	<i>Florence, N. J.,</i>	Science.
Thomas, Edward,	<i>Haverford, Pa.,</i>	Arts.



## SOPHOMORE CLASS.

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Bell, Charles Herbert,	<i>Philadelphia, Pa.,</i>	Arts.
Bishop, Alexander Hamilton,	<i>Paoli, Pa.,</i>	Special.
Cadbury, William Warder,	<i>Philadelphia, Pa.,</i>	Arts.
Dean, Morris Burgess,	<i>Cincinnati, Ohio,</i>	Science.
Embree, John Gyger,	<i>Marshallton, Pa.,</i>	Science.
Gilpin, Vincent,	<i>West Chester, Pa.,</i>	Arts.
Haines, Joseph Howell,	<i>Germantown, Pa.,</i>	Arts.
Harding, Arthur Search,	<i>Philadelphia, Pa.,</i>	Arts.
Janney, Walter Coggeshall,	<i>Philadelphia, Pa.,</i>	Science.
Jenks, John Story, Jr.,	<i>Philadelphia, Pa.,</i>	Science.
Moyer, Menno S.,	<i>Chalfont, Pa.,</i>	Science.
Rhoads, Samuel,	<i>Germantown, Pa.,</i>	Arts.
Scattergood, Alfred Garrett,	<i>Philadelphia, Pa.,</i>	Arts.
Sisler, Perlee Chandler,	<i>Wilmington, Del.,</i>	Special.
Stadelman, Frederic,	<i>Bala, Pa.,</i>	Arts.
Strawbridge, Frank Reeves,	<i>Germantown, Pa.,</i>	Science.
Swan, Frederic Asa,	<i>Lake Kerr, Fla.,</i>	Arts.
Taylor, Joseph Wright,	<i>Haverford, Pa.,</i>	Science.
Taylor, William Jordan,	<i>Cincinnati, Ohio,</i>	Science.
Varney, Alpheus Gould,	<i>Windham, Me.,</i>	Arts.
Varney, C. Arthur,	<i>Providence, R. I.,</i>	Arts.
Wilson, Robert North,	<i>Lenior, N. C.,</i>	Arts.
Wistar, Thomas,	<i>Germantown, Pa.,</i>	Arts.
Wood, Richard Davis,	<i>Philadelphia, Pa.,</i>	Arts.

## FRESHMAN CLASS.

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Bathey, William Aldrich,	<i>Providence, R. I.,</i>	Mechanical Eng.
Beadenkopf, Clarence Milton,	<i>Wilmington, Del.,</i>	Special.
Bishop, Gilbert Livingston, Jr.,	<i>Paoli, Pa.,</i>	Science.
Butler, James Edgar,	<i>Uwchland, Pa.,</i>	Science.
Chase, William Thomas Jr.,	<i>Philadelphia, Pa.,</i>	Science.
Conklin, Edward,	<i>Brooklyn, N. Y.,</i>	Mechanical Eng.
DeCou, Benjamin Satterthwaite,	<i>Moorestown, N. J.,</i>	Mechanical Eng.
Eastburn, George, Jr.,	<i>Philadelphia, Pa.,</i>	Science.
Evans, Francis Algernon,	<i>Germantown, Pa.,</i>	Arts.
Gillespie, William Allen,	<i>Philadelphia, Pa.,</i>	Mechanical Eng.
Haines, Arthur,	<i>Philadelphia, Pa.,</i>	Science.
Hay, Kenneth Mackenzie,	<i>Philadelphia, Pa.,</i>	Special.
Holloway, Walter Vail,	<i>West Liberty, Ia.,</i>	Arts.
Jones, Davis Godfrey,	<i>Wilmington, Del.,</i>	Science.
Jones, Rufus Horton,	<i>Deering, Me.,</i>	Arts.
Lee, Morris Matthews,	<i>Philadelphia, Pa.,</i>	Arts.
Lowry, Howard Haines,	<i>Philadelphia, Pa.,</i>	Arts.
Lycett, Edward Hough,	<i>Haverford, Pa.,</i>	Science.
Maule, Alfred Collins,	<i>Philadelphia, Pa.,</i>	Mechanical Eng.
Mellor, Ralph,	<i>Philadelphia, Pa.,</i>	Mechanical Eng.
Mifflin, Archer B.,	<i>Wayne, Pa.,</i>	Science.
Morris, Joseph Paul,	<i>Philadelphia, Pa.,</i>	Arts.
Redfield, John Howard, Jr.,	<i>Wayne, Pa.,</i>	Arts.
Shipley, Malcolm Augustus, Jr.,	<i>Germantown, Pa.,</i>	Arts.
Stokes, Andrew Maloney,	<i>Philadelphia, Pa.,</i>	Arts.
Wilson, Louis Round,	<i>Lenior, N. C.,</i>	Arts.

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## Admission.

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CANDIDATES for the Freshman Class are admitted either by examination or on certificate.

The certificates of principals of first-class schools will, at the discretion of the President, be accepted in place of entrance examinations. Blank forms will be furnished on application. Certificates of private tutors will *not* be accepted.

Examinations will be held twice a year, in the Sixth and Ninth months, beginning at 9.30 A. M. on the morning preceding Commencement Day and on the morning preceding the opening of the College year.

### SUBJECTS OF EXAMINATION

For all Candidates :

ENGLISH.—The Middle-State College requirements as follows or equivalents :

NOTE.—No candidate will be accepted in English whose work is notably defective in point of spelling, punctuation, idiom, or division into paragraphs.

I. *Reading*.—A certain number of books will be set for reading. The candidate will be required to present evidence of a general knowledge, of the subject matter, and to answer simple questions on the lives of the authors. The form of examination will usually be the writing of a paragraph or two on each of several topics, to be chosen by the candidate from a considerable number set before him in the examination paper. The treatment of these topics is designed to test the candidate's power of clear and accurate expression, and will call for only a general knowledge of the substance of the books. In place of this test, the candidate may present an exercise

book, properly certified by his instructor, containing compositions or other written work done in connection with the reading of the books.

The books set for this part of the examination will be :

1896: Shakspeare's *A Midsummer Night's Dream*; Defoe's *History of the Plague in London*; Irving's *Tales of a Traveller*; Scott's *Woodstock*; Macaulay's *Essay on Milton*; Longfellow's *Evangeline*; George Eliot's *Silas Marner*.

1897: Shakspeare's *As You Like it*; Defoe's *History of the Plague in London*; Irving's *Tales of a Traveller*; Hawthorne's *Twice Told Tales*; Longfellow's *Evangeline*; George Eliot's *Silas Marner*.

II. *Study and Practice*.—This part of the examination presupposes the thorough study of each of the works named below. The examination will be upon subject-matter, style and construction.

The books set for this part of the examination will be :

1896: Shakspeare's *The Merchant of Venice*; Milton's *L'Allegro, Ill Penseroso, Comus, and Lycidas*; Webster's *First Bunker Hill Oration*.

1897: Shakspeare's *The Merchant of Venice*; Burke's *Speech on Conciliation with America*; Scott's *Marmion*; Macaulay's *Life of Samuel Johnson*.

HISTORY.—United States History, Greek and Roman History.

NOTE.—English History may be substituted for Ancient History in the case of students not presenting the Greek or Latin Language.

MATHEMATICS.—*Algebra*, including quadratic equations and radicals; *Plane Geometry*.

NOTE.—*Solid Geometry* will be required of all students not presenting Greek.

SCIENCE.—Elementary Physics and Human Physiology will be required of all students presenting neither Greek nor Latin.

TWO OF THE FOLLOWING LANGUAGES :

NOTE.—Of all candidates for the Bachelor of Arts degree *either* Greek

or Latin will be required. Of all candidates for admission to the Engineering course only one language will be required.

*Greek*.—A thorough knowledge of the Grammar, including scanning of hexameter verse; Xenophon's *Anabasis*, four books; Homer's *Iliad*, three books; sight reading from Xenophon and Homer; ability to write simple sentences in Greek with accents; Jones's Greek Composition, twenty-five Exercises, will indicate the amount necessary.

*Latin*.—Cæsar's *Gallic War*, four books; Vergil's *Æneid*, six books; Cicero, six orations. Sight reading from Cicero, Cæsar, and Nepos. General questions on grammar, prosody, history, and mythology suggested by the text. Translation of easy prose from English into Latin; Harkness, Parts I and II, or Jones's Exercises will indicate the amount necessary.

*German*.—A thorough knowledge of the Grammar, ability to read at sight ordinary prose or poetry, and to translate simple English sentences into German. The Joynes-Meissner Grammar is recommended. The minimum amount to be read may be indicated by Harris's *German Reader*; Storm's *Immensee*, *Geschichten aus der Tonne*; Schiller, *Jungfrau von Orleans*.

*French*.—A thorough knowledge of the Grammar; ability to read at sight ordinary prose or poetry, and to translate simple English sentences into French. Grandgent's Grammar is recommended. The minimum amount to be read may be indicated as follows: Super's *French Reader*, Parts II, III, and IV; Ereckman-Chatrion's *Madame Thérèse*; Fontaine's *Histoires Modernes*, I; Sand's *La Mare au Diable*.

Equivalents will be accepted in all the linguistic requirements.

Students not able to pass all the examinations may be conditioned on a limited number.

Students not candidates for a degree may, at the discretion of the Faculty, be admitted to pursue special courses, for proficiency in which certificates may be granted; but this permission will be given only to students of sufficient age, ability, and diligence to insure their success.

Candidates may be admitted to advanced classes if found fitted in all the regular studies of the course up to the point at which they enter.

Each candidate must forward, together with his application, a certificate of good moral character from his last teacher ; and students from other colleges must present certificates of honorable dismissal in good standing.

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## Expenses.

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THE usual charge for Tuition, Board, and Room Rent in Barclay Hall is five hundred dollars (\$500) a year.

A few students will be taken in larger rooms for five hundred and twenty-five dollars (\$525) a year, and a few, in Founders' Hall, for four hundred dollars (\$400) a year.

NOTE.—The rent of rooms includes steam heat, electric light, necessary bed-room furniture, and care of rooms. Students will supply their study-room furniture, also towels and table napkins.

The charge for Tuition is one hundred and fifty dollars (\$150) a year ; for Tuition and mid-day meal, two hundred dollars (\$200) a year.

Books, stationery, and laundry work will, at the option of the student, be supplied by the College and charged on the half-yearly bills. Materials consumed and breakage in the Laboratories are also charged.

The charge for Graduate Students for Board and Tuition is three hundred dollars (\$300); for Tuition alone, one hundred dollars (\$100).

Bills for Board and Tuition are payable one-half at the beginning and one-half at the middle of the College year.

## Undergraduate Scholarships.

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A FEW scholarships, varying in amount from \$100 to \$300, are at the disposal of the College.

These will be granted annually to properly qualified students who cannot afford to pay the full charges. In awarding the scholarships, both character and intellectual preparation are taken into account. Students should send, with their application, certificates of moral character. The intellectual preparation is tested by examination. Blank forms on which the application must be written will be furnished by the President of the College. Candidates are advised to apply at an early date.

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## Graduate Scholarships.

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THERE are four Graduate Scholarships of sufficient value to cover the whole charge for Board and Room Rent. By the conditions of the donors, one of these will be given to a graduate of each of the following Colleges, viz.: Haverford, Earlham, Penn, and Wilmington; *Provided*, that the student shall be recommended by the President of the College at which he was graduated as likely to profit by the instruction given at Haverford, and that he shall be satisfactory to the Faculty of Haverford College.

Should there not be satisfactory applications by Fourth month 1st, they may be otherwise disposed of.



## Courses of Instruction.

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THERE are three courses :—

1. *Course in Arts*, leading to the degree of *Bachelor of Arts*.
2. *Course in Science*, leading to the degree of *Bachelor of Science*.
3. *Course in Mechanical Engineering*, leading to the degree of *Bachelor of Science*.

The first two of these courses are combined in the following table.

Students must continue for two years the languages presented on admission. The degree of Bachelor of Arts will be given only to a student who has either Latin or Greek.

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## Course in Arts and Course in Science.

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### FRESHMAN YEAR.

1. *Scripture*. General outline of the history and literature of the Bible. One hour a week.
2. *Rhetoric, Composition, and English Literature*. *Foundations of Rhetoric* (A. S. Hill); Reading in English Prose; Lectures on English Literature; Themes.
3. *History*. Outlines of Ancient History; Mediæval History; Political and Industrial History of the United States. Subjects 2 and 3, four hours a week.
4. *Mathematics*. Sharpless's *Solid Geometry*; Hall and Knight's *Higher Algebra*; Oliver, Wait, and Jones's *Trigonometry*; Geometrical Conic Sections. Four hours a week.

NOTE.—Students presenting *Solid Geometry* for admission will take a course in Elementary Mechanics.

5 and 6. Two of the following languages :

- a. *Greek*. Lysias, *Select Orations*; Herodotus, *Selections*; Homer, *Selections*; Translation at sight; Greek Composition. Four hours a week.
- b. *Latin*. Vergil, *Æneid*, Bks. vii, viii, ix, Cicero, *De Senectute*; Livy, Bk. xxi; Translation at sight; Prose Composition. Four hours a week.

- c. *German*. Exercises in composition; Freytag, *Die Journalisten*; Schiller, *Wallenstein*; Lessing, *Minna von Barnhelm*; Selections from German Prose; Reading at sight; Private Reading of books assigned by the instructor. Four hours a week.
- d. *French*. Nineteenth Century: Daudet, Augier, Labiche, Sandeau, Pailleron, Lamartine, Hugo. Seventeenth Century: Bossuet, Bourdaloue, Massillon, Corneille, Racine, Molière. History of French Literature (XVII-XIX Centuries); Composition. Four hours a week.
- 7. *Physical Training*. Physiology and Hygiene—First Quarter; Gymnasium Work—Second and Third Quarters.

## SOPHOMORE YEAR.

- 1. *Scripture*. Greek or English New Testament. One hour a week.
- 2. *Mathematics*. Smith's *Analytical Geometry*. Four hours a week the first half year.
- 3 and 4. Two of the following languages:
  - a. *Greek*. Plato, *Apology* and *Crito*, or *Phaedo*; Æschylus, *Prometheus*; Euripides, *Alcestris*; Lectures; Translation at sight (Xenophon, *Memorabilia*); Dictation Exercises in writing Greek. Three hours a week.
  - b. *Latin*. Cicero, *In C. Verrem*, Act. II. Lib. 5; Pliny, *Selected Letters*; Horace, *Odes* and *Epodes*; Translation at sight; Prose Composition. Three hours a week.
  - c. *German*. Goethe, *Faust*, *Iphigenie*, and *Aus Meinem Leben*; Freytag, *Aus dem Staat Friedrichs des Grossen*; Private Reading; Lectures on German Literature. Three hours a week.
  - d. *French*. Molière, Hugo, Balzac. History of French Literature from beginning to the Seventeenth Century. Three hours a week.
- 5. *Physics*. Elementary Physics, and Laboratory Work. Five hours a week the first half year.
- 6. *Chemistry*. Elementary General Chemistry, Lectures, and Laboratory Work. Five hours a week the second half year.

NOTE.—In all such cases the number of recitations or their equivalent in Laboratory Work is given—one hour of recitation being supposed equivalent to two and a half of Laboratory.

- 7. The student will also elect one of the following the second half year:
  - a. *Mathematics*. Calculus. Four hours a week.
  - b. *Elementary Biology*, Lectures, and Laboratory Work. Five hours a week.
- 8. *Physical Training*. Gymnasium Work.
- 9. *Themes*.

## JUNIOR YEAR.

1. *Scripture*. One hour a week.
2. *Political Science*. Political Economy; Principles of Constitutional Law (Text-Book and Lectures). Two hours a week.
3. *Philosophy*. Logic and Psychology. Two hours a week.
4. *Themes*.
5. *Elective Studies* from the lists on pages 25-28, subject to the limitations in the following notes. Ten hours a week.

*Note 1.* All students shall have had before graduation at least one year (three hours) each of German and French.

*Note 2.* All candidates for the Bachelor of Arts degree shall take either Greek, Latin, or Mathematics (three hours) in the Junior year.

*Note 3.* All candidates for the Bachelor of Science degree shall take two of the following (each three hours) in the Junior year: Mathematics, Chemistry, Physics, Geology and Astronomy, Biology.

## SENIOR YEAR

1. *Scripture*. One hour a week.
2. *Ethics*. Two hours a week.
3. *Themes*.
4. *Elective Studies* from the lists on pages 25-28. Twelve hours a week.

## Synopsis of Above Courses.

## FRESHMEN.

Scripture,.....	1 hour.
English and History,.....	4 hours.
Mathematics,.....	4 "
Two of the following,.....	8 "
Greek,.....	4 hours.
Latin,.....	4 "
German,.....	4 "
French,.....	4 "
Physical Training.	
Themes.	

## JUNIOR.

Scripture,.....	1 hour.
Political Science,.....	2 hours.
Philosophy,.....	2 "
Electives,.....	10 "
Themes.	

## SOPHOMORE.

Scripture,.....	1 hour.
Mathematics, 1st half....	} 4 hours.
Mathematics, 4 } 2nd half	
or Biology 5 }	
Physics, 1st-half,.....	} 5 hours.
Chemistry, 2nd half,.....	
Two of the following,.....	6 hours.
Greek,.....	3 hours.
Latin,.....	3 "
German,.....	3 "
French.....	3 "
Physical Training.	
Themes.	

## SENIOR.

Scripture,.....	1 hour.
Ethics,.....	2 hours.
Electives,.....	12 "
Themes.	

## Mechanical Engineering Course.

### FRESHMAN YEAR.

Mathematics, .....	4 hours.
Shop Work and Drawing,.....	10=4 “
French or German, ..	4 “
English and History, ..	4 “

### JUNIOR YEAR.

Applied Mathematics, .....	3 hours.
Shop Work and Drawing,.....	10=4 “
Materials of Engineering,.....	2 “
Chemistry, .....	5=2 “
Descriptive Geometry, etc.,.....	2 “
Electives, .....	2 “

### SOPHOMORE YEAR.

Mathematics, .....	4 hours.
Shop Work and Drawing,.....	10= “
Physics and Chemistry, .....	5 “
French or German,....	3 “

### SENIOR YEAR.

Ethics, .....	2 hours.
Mechanics and Thermodynamics, ....	3 “
Mechanical Laboratory, .....	10=4 “
Theory of Steam Engine, Machine Design, .....	3 “
Electives,.....	3 “

For Electrical Students the course will be modified during the last two years so as to include a course in Theoretical and Practical Electricity.

Scripture and Themes are required throughout and Physical Training through two years.

## Preparatory Medical Course.

This course is designed for students who are candidates for the degree of A. B. or S. B. and who are looking forward to the study of medicine. It is intended that the studies included in it shall be taken as electives principally during the Junior and Senior years. Students satisfactorily completing this course will receive certificates which together with their diplomas will admit them without examination to the second year of the Medical School of the University of Pennsylvania or the Jefferson Medical School of Philadelphia.

The studies included in this course together with the whole number of hours in the lecture room and laboratory necessary to be devoted to each are as follows:

General Biology,.....	96 hours.	Histology,.....	72 hours
Zoölogy,.....	96 “	Physiology, .....	48 “
Botany, .....	96 “	Physics, .....	72 “
Mammalian Anatomy, ..	288 “	Chemistry, .....	216 “
Embryology, .....	72 “		

Students not candidates for a degree can take the above studies in two years. Such students may not be admitted to the second year of the Medical Schools.

## Elective Courses.

Seniors and Juniors will elect from the following list, with the approbation of the Faculty, sufficient to make up the required number of hours.

### GREEK.

I. History of Greek Literature. Lectures; Selections for Reading. [Prof. Gifford. 3.]\*

II. Selections from the Greek Orators. Lectures on Greek Art and Antiquities. [Prof. Gifford. 3.]

III. Sophocles; Euripides; Thucydides; Dictation exercises in writing Greek. [Prof. Gifford. 3.]

Courses I and II are given in alternate years.

### LATIN.

I. The principal Satires of Horace and Juvenal; Selections from Lucretius and Catullus; Tacitus *Annals*, Bks. i-vi. Translation at sight. [Dr. Mustard. 3.]

II. Horace, *Epistles*; Vergil, *Bucolics* and *Georgics*, Bks. i, ii, iv; Terence, *Adelphoe*, *Andria*, *Phormio*; Plautus, *Menæchmi*, *Amphitrus*, *Captivi*. Translation at sight. [Dr. Mustard. 3.]

III. Advanced Latin Composition. [Dr. Mustard. 1.]

### ENGLISH.

I. ANGLO-SAXON.—Bright, *Anglo-Saxon Reader*; Cynewulf's *Elene*; Lectures. [Dr. Gummere. 2.]

II. ENGLISH LITERATURE IN THE FOURTEENTH CENTURY.—Chaucer's *Canterbury Tales*. Lectures. [Dr. Gummere. 1.]

III. SHAKSPERE.—*Lear*, *Hamlet*, *Tempest*, *As You Like It*: Private Readings; Lectures on Elizabethan Poetry. [Dr. Gummere. 2.]

IV. ADVANCED ENGLISH COMPOSITION.—Exercises in Composition; Discussion of special work; Readings in English Prose. [Dr. Gummere. 1.]

Only those who have attained good rank in themes for the Freshman and Sophomore Years will be admitted to this class. Members of it will be exempted from regular theme work.

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\* These figures represent the number of hours per week. In Laboratory Work, etc., two and a half hours count as one.

V. ENGLISH LITERATURE OF THE EIGHTEENTH AND NINETEENTH CENTURIES.—Selections from Representative Authors; Lectures; Private Readings. [Dr. Gummere. 2.]

Some of the above courses will be omitted in alternate years.

#### GERMAN.

I. MIDDLE-HIGH GERMAN.—Paul, *Mittelhochdeutsche Grammatik*. Selections from the Poems of Walther von der Vogelweide. *Das Niebelungenlied*. [Dr. Gummere. 2.]

II. GOETHE, *Faust*, *Iphigenie*, and *Aus Meinem Leben*; Freytag, *Aus dem Staat Friedrichs des Grossen*; Private Readings; Lectures in German Literature. [Dr. Gummere. 3.]

III. Exercises in Composition; Freytag, *Die Journalisten*; Schiller *Wallenstein*; Lessing, *Minna von Barnhelm*; Sections from German Prose; Reading at sight; Private reading of books assigned by the instructor. [Dr. Gummere. 4.]

IV. Joynes-Meissner; *German Grammar*; Harris, *German Reader*; Storm, *Imensee*, *Geschichten aus der Tonne*; Translations at sight of ordinary prose; Exercises in Composition. [Dr. Gummere. 3.]

#### FRENCH.

I. Molière, Hugo, Balzac. History of French Literature from Beginning to the Seventeenth Century. [Prof. Ladd. 3.]

II. Nineteenth Century: Daudet, Augier, Labiche, Sandeau, Paileron, Lamartine, Hugo. Seventeenth Century: Bossuet, Bourdaloue, Massillon, Corneille, Racine, Molière. History of French Literature (XVII-XIX Centuries) Composition. [Prof. Ladd. 4.]

III. Grandgent's *French Grammar*; Super's *French Reader*; Erckmann-Chatrian's *Madame Thérèse*; Fontaine's *Historiettes Modernes*, I; Sand's *La Mare au Diable*. [Prof. Ladd. 3.]

#### PURE MATHEMATICS.

I. Analytical Geometry of three Dimensions. Calculus.

[Prof. Morley. 3.]

This course is required of Engineering Students in their Junior year; and it is the proper course, in general, for all students who elect Pure Mathematics, in their Junior Year.

II. Modern Methods in Geometry.

[Prof. Morley. 3.]

III. Geometric Introduction to the Theory of Covariants.

[Prof. Morley. 3.]

#### APPLIED MATHEMATICS.

I. Introduction to Analytical Mechanics, including Attraction and Potential.

[Prof. Brown. 3.]

- II. Differential Equations (Forsyth). [Prof. Brown. 3.]  
 III. Elementary Rigid Dynamics (Routh). [Prof. Brown. 3.]

## HISTORY.

- I. Mediæval and Modern European History. [R. M. Jones. 2.]  
 II. Political and Constitutional History of England from the Anglo-Saxon Conquest to the Restoration. [R. M. Jones. 3.]  
 III. Political and Constitutional History of England from the Restoration to the present time. [R. M. Jones. 3.]  
 Courses II and III are intended to be given in alternate years.  
 IV. American Colonial History to 1783; Europe and America during the Eighteenth Century. [Prof. Thomas. 3.]  
 V. Constitutional and Political History of the United States, 1783 to 1865. [Prof. Thomas. 3.]  
 Courses IV and V are intended to be given in alternate years.

## PHILOSOPHY.

- History of Philosophy. [R. M. Jones. 2.]

## POLITICAL AND SOCIAL SCIENCE.

- I. Political Science; the English Government, its present workings and past history; Comparative Study of existing Federal Governments; Election Laws and Political Organization; State Governments in the United States; Municipal Government in America and Europe; Lectures. [Dr. W. D. Lewis. 2.]  
 Economic Problems; Money and Banking; Transportation. [Dr. E. R. Johnson. 2.]

## ASTRONOMY.

- I. Practical Astronomy, with Observatory Practice. [W. H. Collins. 2.]  
 II. Descriptive Astronomy. (Half-year.) [W. H. Collins. 2.]

## CHEMISTRY.

- I. General Chemistry; Lectures and Laboratory Work. [Dr. L. B. Hall. 2 or more.]  
 II. Analytical Chemistry; Lectures and Laboratory Work. [Dr. L. B. Hall. 2 or more.]  
 III. Organic Chemistry; Lectures and Laboratory Work. [Dr. L. B. Hall. 2.]

## BIOLOGY.

- I. Invertebrate Morphology; Lectures and Laboratory Work. [Dr. H. S. Pratt. 2.]  
 II. Vertebrate Morphology; Lectures and Laboratory Work. [Dr. H. S. Pratt. 3.]

## III. Embryology; Lectures and Laboratory Work.

[Dr. H. S. Pratt. 3.]

Courses I and II each occupies an entire year. Course III is given as part of Course II and cannot be taken apart from it. Course II must be preceded by Course I. Course I must be preceded by a course in Elementary Biology. Seniors electing Biology will be given any advanced courses they may elect. It is hoped they will pursue special investigation.

## IV. Human Anatomy (Preparatory Medical). [J. A. Babbitt. 2.]

## GEOLOGY.

Elementary Geology; Recitations and Field Work. (Half-year.)

[Dr. Pratt. 3.]

## ENGINEERING.

## I. Materials of Construction; Theory of the Steam Engine.

[Prof. Edwards. 2.]

## II. Descriptive Geometry; Elements of Mechanism.

[Profs. Edwards and Brown. 2.]

Courses I and II will be given in alternate years.

## III. Machine Design and Draughting. (Open only to Engineering Students.)

[Prof. Edwards, 2.]

## PHYSICS.

## I. Electricity and Magnetism; S. P. Thompson's Lessons and Emtage's Electricity and Magnetism; Lectures, Recitations, and Laboratory Work.

[Prof. Edwards. 3.]

## II. Electrical Engineering; Slingo's and Brooker's Electrical Engineering and S. P. Thompson's Dynamo-Electric Machinery, with Laboratory Work.

[Prof. Edwards. 2.]

## III. Theory of Heat; Stewart's Heat and Clausius' Mechanical Theory of Heat, with Laboratory Work.

[Prof. Edwards. 2.]



## Public Lectures during 1894-5.

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"Haverford Library Lectures" by J. Rendel Harris, M. A., Fellow of Clare College, and Lecturer on Paleography in the University of Cambridge, England.

1. "The Influence of Homer upon the Early Christian Church."
2. "The New Syriac Gospels from Mt. Sinai." Lantern Illustrations.
3. "Methods of Research in Eastern Libraries." Lantern Illustrations.
4. "Paleographical Studies with especial reference to Greek MSS." Lantern Illustrations.
5. "Some Recently recovered Early Christian Documents."

### POLITICAL LECTURES.

Municipal Government as a Moral Problem.

[By Herbert Welsh, of Philadelphia.]

The Restriction of Immigration. [By Dr. Francis A. Walker, of Boston.]

The Present Currency Problem.

[By Michael D. Harter, M. C., from Ohio.]

Civil Service Reform.

[By Charles J. Bonaparte, of Baltimore.]

Methods of Securing Honest Elections.

[By Charles C. Binney, of Washington.]

### ART LECTURES.

[By Richard T. Cadbury.]

1. The scope and qualities of Black and White as evidenced in various forms of illustration.

2. On Paintings from the Gallery of John H. Converse.

### LOGANIAN LECTURES.

Napoleon (three lectures.)

[By Charles H. Adams.]

The Canadian Pacific Railway.

[By George Vaux, Jr.]

### LECTURES TO THE SENIOR AND JUNIOR CLASSES.

1. Taxation. [Dr. Francis A. Walker.]

2. Civic Duties. [Dr. William I. Nichols.]

3. Corporate Scholarship. [Dr. George Dana Boardman.]

4. Scientific Charity. [Dr. Samuel M. Lindsay.]

## Grading of Students.

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STUDENTS are divided, according to their grades, into five sections, A, B, C, D, E. Each student is notified of the section to which he has been assigned, but the grades are not published. Section E is composed of those who cannot be advanced to the next higher class, nor receive their Bachelor's degree. Daily recitations, hour examinations, and final examinations are all used as elements in determining the standing of a student.

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## Advanced Degrees.

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BACHELORS OF ARTS AND BACHELORS OF SCIENCE of three years' standing may take the degrees of MASTER OF ARTS OR MASTER OF SCIENCE, on submitting to the Executive Committee satisfactory evidence of continued good character, and passing an examination on some literary or scientific course of study which shall receive the approbation of the Faculty and Managers.

Candidates who are examined may also be required to hand in Dissertations on topics in the field of study which they have specially investigated.

*Resident* Graduates, who have completed an adequate course of study, may be admitted to an examination for a second degree at the expiration of one or two years.

Graduates of other Colleges and Scientific Schools of good standing, who present satisfactory evidence of character and qualifications, will be admitted as candidates for the degree of Master of Arts. One year's residence at Haverford College will be required of all such students.

Notice of application for examination must be given to the President two months before Commencement. The examination for non-residents will be held during the last week in the Fifth month, and in no case at a later date. The fee for the Diploma of the Second Degree is Twenty Dollars ; of subsequent degrees, Thirty Dollars, to be paid in all cases before the 10th of the Sixth month.

The following are stated as adequate courses of study to be presented by candidates for a second degree. Particulars can be had on application to the President.

I. Hebrew. Mitchell's Gesenius' Hebrew Grammar. Critical and Philological reading and analysis of I and II Samuel ; I and II Kings. Sight reading of Genesis, unpointed (edition of Muchlau et Kautzsch, Lipsiæ, 1885).

II. Assyrian. Lyon's Assyrian Manual. Friedrich Delitzsch's Assyrische Lesestücke. Syllabare (Sb. Sc.) S. 53-75. Neuassyrische Text (S. 110, 4-121).

III. The whole of the New Testament in Greek, with the introduction to N. T. of Scrivener, and of Westcott and Hort.

IV. The whole of Thucydides, together with Grote and Curtius on the Peloponnesian War ; Greek composition.

V. Twelve Tragedies of Æschylus, Sophocles, or Euripides ; Greek composition.

NOTE.—A course similar to IV and V may be arranged in other Greek authors.

VI. Cicero's Tusculan Disputations (five books), De Natura Deorum and De Officiis, together with the History of Ancient Philosophy ; Latin composition.

VII. Mommsen's and Merivale's Histories ; the whole of Tacitus ; Pliny's Letters ; Latin composition.

VIII. German Literature, with translation at sight from any of the leading authors, and an essay in German.

IX. French Literature, with translation at sight from any of the leading authors, and an essay in French.

X. Greek Literature, with translation at sight from any of the leading authors, and an essay in Greek.

XI. Latin Literature, with translation at sight from any of the leading authors, and an essay in Latin.

XII. Pure Mathematics Two of the following, or one in XII and one in XIII.

a. General Introduction to the Theory of Functions.

b. The Elliptic and Hyperelliptic Functions.

c. The Theory of Plane Curves.

d. Selections from the Theory of Surfaces.

XIII. Applied Mathematics. Two of the following, or one in XII and one in XIII.

- a.* Attraction and Potential. Rigid Dynamics.
- b.* Theoretical Dynamics including Least Action, the Principal Function, La Grange's and Hamilton's Equations. Spherical Harmonics with applications.
- c.* Hydrostatics and Hydrodynamics.
- d.* Lunar and Planetary Theories.
- e.* Elasticity.

An elementary knowledge of the Calculus and of Analytical Geometry will be required.

XIV. Theoretical Astronomy (Computation of an Orbit—Oppolzer, Watson, or Gauss).

XV. Practical Astronomy (Chauvenet and Doolittle); Observatory Work.

XVI. Rankine's Applied Mechanics or Rankine's Civil Engineering.

XVII. European History; Political, Constitutional, Economic.

XVIII. American History; Political, Constitutional, Economic.

Courses in History can be arranged by consultation with the Professor in charge of the department.

XIX. Ecclesiastical History. A general knowledge of the leading facts in Early Church History and an acquaintance with Greek and Latin will be required; a special subject may be selected from the following:

*a.* The Writings of Barnabas and Justin and Teaching of the Twelve Apostles.

*b.* The Clementine and Ignatian Epistles.

*c.* The Ecclesiastical History of Eusebius.

XX. Germanic Philology and Literature. (One of the following to be selected):

*a.* *Anglo-Saxon*.—Grein's *Bibliothek der angelsächsischen Poesie*; Sweet's Edition (Early English Text Society) of the Anglo-Saxon Version of the *Cura Pastoralis*; Cook's Sievers' Anglo-Saxon Grammar. A knowledge of Gothic Grammar is required in this as in the next course.

*b.* *Middle High German*.—*Das Nibelungenlied*; Walther von der Vogelweide; *Gudrun*; History of Early German Literature; Old High German Grammar.

*c.* *Old Norse*.—A course similar to *a* and *b* can be arranged in Old Norse Literature and Philology.

XXI. English Literature. An intimate acquaintance with the authors of some characteristic epoch will be required, and a good English style, manifested in an original essay.

XXII. Physics. Any two of the following, with Laboratory work: Mechanics (Sturm); Fluid Motion (Lamb); Thermodynamics (Clausius); Electricity and Magnetism (part of Mascart and Joubert); Acoustics (Donkin); Geometrical Optics (Heath); Physical Optics (Preston).

The Laboratory work required will, in general, be along the lines of the student's reading, and will consist either in the skillful repetition of some piece of research, or in some independent work of scientific value.

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| XXIII. Chemistry.        | } Courses in these subjects can be arranged by consultation with the Professor in charge of the department. |
| XXIV. Political Economy. |   |
| XXV. Biology.            |   |

## Alumni Prize for Composition and Oratory.

The Association of the Alumni, in the year 1875, established an ANNUAL PRIZE, either of a Gold Medal or of an equivalent value in Books and a Bronze Medal, for excellence in Composition and Oratory.

The following are the rules governing the competition :

I. The Alumni Medal is offered yearly to the competition of the members of the Senior and Junior Classes, as a prize for the best delivered oration prepared therefor.

II. Three or five Judges shall be appointed from year to year by the Alumni Committee, who shall hear publicly, in Alumni Hall, all competitors who may be qualified to appear.

III. No oration shall occupy in delivery more than fifteen minutes.

IV. In making their award, while due weight is given to the literary merits of the oration, the Judges are to consider the prizes as offered to encourage more especially the attainment of excellence in elocution.

V. The Judges shall have the right to withhold the Prize if the elocution and the literary merits of the oration fall below a suitable standard of excellence.

## The Everett Society (Silver) Medal.

The medal is offered by the founder for the first time (1895-6) to the competition of the members of the two lower classes, in loving memory of the old Everett Society, which no longer preserves its separate existence.

The rules are liable to be changed from time to time, as experience seems to direct. The founder expects that this prize will produce annually better and better original orations (not over ten minutes in delivery), which shall be prepared considerably in advance perfectly committed to memory and delivered, if sufficiently meritorious, without their authors having had any assistance other than such furnished alike to each con-

testant. It is desired in addition, that a record should be kept of each years contest. The precise rules governing each contest will be posted or printed in *The Haverfordian*, some time in advance of preparation for such contest.

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## Prizes for Systematic Reading.

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Two prizes, of \$60 and \$40, respectively, will be given to those members of the Junior Class who, having creditably pursued their regular studies and paid proper attention to physical culture, shall have carried on the most profitable course of reading of standard authors during the Sophomore and Junior years.

The direction of the work and the decision as to the award of the prizes shall be in the hands of a committee consisting of the President, the Librarian, and the Professor of English.

Either or both prizes may be omitted if, in the judgment of the committee, the work does not justify the award.

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## The Class of 1870 Prize in English Composition.

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This prize, of the value of \$50, is offered under the following conditions: The competitors shall be members of the Senior or Junior Class. The papers should not exceed the limits of an ordinary short essay, and should excel as much in harmonious proportion of material as in particular points of style. The standard of merit is excellence in composition, with chief regard to subject-matter, originality, and a clear, forcible, and correct style. Unless definite subjects should be announced, the writers are at liberty to choose their own; but such a choice must be submitted to the approval of the President of the College. All essays must be submitted, by Fifth month 1st, to a committee to be appointed by the Class of 1870. The Prize is to be announced on the night of the Alumni oration and at Commencement, and is to be recorded in the College Catalogue.

## Honors.

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For the purposes of Honors studies are divided as follows :

- I. Ancient Languages and Literature.
- II. Modern Languages and Literature.
- III. Mathematics, Physics, and Astronomy.
- IV. Chemistry and Biology.
- V. History, Philosophy, and Political Science.
- VI. Latin and French.
- VII. Chemistry and Physics.

Students candidates for Honors shall elect from one group at least five hours per week during the Junior year, and eight hours per week during the Senior year, and shall make their announcements of candidacy at the beginning of the Junior year.

*Highest Honors* and *Honors* may be given, dependent on the judgment of the Professors immediately interested, to be decided by special examination or otherwise.

Honors shall be announced at Commencement and in the succeeding catalogue.

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## Library.

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LIBRARIAN, Professor Allen C. Thomas; ASSISTANT, J. Linton Engle.

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THE number of bound volumes in the Library of Haverford College is 31,604. Numerous American and European periodicals, scientific and literary, are taken by the Library.

Through the liberality of friends of the College the theological and miscellaneous library of the late Gustav Baur, for many years Professor of Theology in the University of Leipsic, was bought and given to the College in 1889. It consists of 7,005 volumes, including several thousand bound pamphlets. It is rich in theology, Oriental languages, and in German literature. It has been classified, and a card catalogue prepared.

About \$1,800 yearly are expended for the purchase of books and periodicals.

The Library is open as a reading-room from 9 A. M. to 8 P. M., during which time the volumes in the alcoves may be freely consulted. The Librarian devotes stated hours each week to the purpose of assisting and directing students in their reading, and in the intelligent use of books of reference and of authorities. He also arranges courses of reading.

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## Chemical Laboratory.

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DIRECTOR, Dr. Lyman B. Hall ; ASSISTANT, William K. Alsop.

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THE Laboratory Work comprises elementary experiments in General Chemistry ; an extended study of the more important elements and their compounds ; qualitative and quantitative analysis ; the preparation of pure compounds ; and experimental work illustrating chemical laws and theories.

Students may substitute for the last two years of the Scientific Course a special course in Chemistry, embracing both theory and laboratory work.

Opportunity is given for elementary or advanced special work, with ample facilities for its prosecution.

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## Physical Laboratory.

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DIRECTOR, Professor Levi T. Edwards ; ASSISTANT, A. D. Hartley.

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THE Physical Laboratory occupies five medium-sized rooms, and is well equipped for work in the different departments of Physics. The apparatus has been selected with especial reference to quantitative rather than qualitative work, and includes in every department exact standards. The department of electricity has been exceptionally well equipped, and additions are gradually being made to the apparatus in all departments.

The students are instructed in the accurate measurement of



various physical quantities in mechanics, heat, light, and electricity. They are also assigned a certain amount of qualitative work leading up to a more intimate knowledge of the properties of matter.

The work of the more advanced students is supplemented by reading in the foreign and domestic scientific journals which are accessible in the Library.

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## Biological Laboratory.

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DIRECTOR, Dr. H. S. Pratt ; ASSISTANT, Charles D. Nason.

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The Biological Laboratory is well equipped with reagents and with microscopes and all the other necessary apparatus and appliances. It contains also about two hundred recent biological works and zoölogical and botanical charts.

The work consists of courses in General Zoölogy and Botany, followed by thorough courses in invertebrate and vertebrate morphology, histology and embryology.

Students who have completed the courses prescribed may elect advanced work or carry on special investigations.

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## Museum.

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CURATOR, Dr. H. S. Pratt.

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THE museum contains a large collection of native and foreign birds and birds eggs ; a conchological collection ; a collection of fossils ; and a large collection of rocks and minerals. It contains also an Herbarium in which about 3000 species are represented.

## Mechanical Laboratory.

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DIRECTOR, Prof. Levi T. Edwards; ASSISTANT, Allen Curry Thomas.

---

THE MECHANICAL LABORATORY occupies a commodious building erected in 1890 especially for the Engineering Department. It contains a machine shop, carpenter shop, blacksmith shop, foundry, draughting room, blue-printing room, and stock room. The machine shop contains, besides several complete sets of machinists' tools for vise work, several lathes, a planer, sharper, drill press, vises, etc. The carpenter shop contains several complete sets of carpenters' tools, wood lathes, and a band saw. The foundry and blacksmith shop are well equipped.

The instruction begins with a series of graded exercises, which teach accuracy in the use of tools and illustrate the principles of machine construction. This is followed by practice in the construction of parts of machinery and the building of complete machines.

The students, under the care of the Director, are taken from time to time to visit machine shops and engineering constructions in Philadelphia and vicinity.

## Astronomical Observatory.

---

DIRECTOR, William H. Collins.

---

THE HAVERFORD OBSERVATORY affords students the means of becoming familiar with the use of astronomical instruments, and of acquiring, from actual observation, a practical acquaintance with Astronomy.

It contains two Equatorial Telescopes, one by Clark, having an object-glass 10 inches in diameter, and one with an object-glass of  $8\frac{1}{4}$  inches, with filar micrometer and eye-pieces; a polarizing eye-piece; a Newtonian Reflector, with a silver-on-glass speculum of  $8\frac{1}{4}$  inches diameter; Prism Spectroscope; a Meridian Transit Circle having a Telescope of  $3\frac{3}{4}$  inches aperture, with a circle at each end of the axis 26 inches in diameter; a Zenith Instrument of  $1\frac{3}{4}$  inches aperture, with a micrometer; two Sidereal Clocks, one with mercurial compensation, the other used to connect with a Bond's Magnetic Chronograph.

The latitude of the Observatory is  $40^{\circ} 0' 40''$  N.; its longitude, 6 minutes 59.4 seconds east from Washington.

A Special Course in Astronomy is offered to amateurs and teachers. The requisites for the course and the fees charged will depend on the work which the applicant desires to perform.

## The Gymnasium.

---

DIRECTOR, James A. Babbitt ; ASSISTANT, John A. Lester.

---

THE GYMNASIUM has been refitted with several improved gymnastic appliances, and now includes in its equipment rowing, sculling, and wrist machines, chest weights of recent device, striking-bag and drum, and the necessary apparatus for the gymnastic game of basket-ball.

The Director gives systematic instruction, based upon careful physical examination, and an extensive addition for this purpose has been made in the anthropometric equipment.

Required work begins Twelfth month 1st and ends Fourth month 15th, and occupies four periods each week.

It is arranged in two courses, each occupying one season.

Students entering the Freshman class are required to take the two courses, one each year; and divisions for advanced work are formed of those giving evidence of previous systematic gymnasium drill.

Students entering the Sophomore class are required to complete one course, with a similar privilege of advanced standing.

While the work is required of the two lower classes only, it is elective for the upper classes, and it is expected that the majority of the members will take advantage of the advanced courses arranged.

## Societies.

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THE LOGANIAN SOCIETY was established by the Officers and Students in 1834.

THE EVERETT-ATHENÆUM is a literary society of the students.

A flourishing branch of the YOUNG MEN'S CHRISTIAN ASSOCIATION exists at the College.

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## Degrees, Prizes, and Honors Granted in 1895.

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At the Commencement in 1895 Degrees were granted after examination to the following graduates :

### BACHELOR OF ARTS.

SAMUEL BETTLE, JR.,	EDMUND BLANCHARD, JR.,
SAMUEL HULME BROWN,	FRANK HENRY CONKLIN,
CHARLES HOWLAND COOKMAN,	JAMES LINTON ENGLE,
JOSEPH SPRAGG EVANS, JR.,	HENRY JOHN HARRIS,
	GEORGE LIPPINCOTT.

### BACHELOR OF SCIENCE.

*WILLIAM GOODMAN,	†ARTHUR MOORHEAD HAY,
ERROLL BALDWIN HAY,	WILLIAM SMEDLEY HILLES,
JOHN BACON LEEDS,	*CHARLES CLIFFORD TAYLOR
ALLEN CURRY THOMAS,	HENRY EVAN THOMAS,
	WALTER COATES WEBSTER.

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\*In Mechanical Engineering.

†In Mechanics and Electricity.



# List of Graduates and Honorary Degrees.

(Degrees conferred by other institutions are indicated by *italics*.)

THE ONLY DEGREE GRANTED ON GRADUATION BEFORE 1877 WAS THAT  
OF BACHELOR OF ARTS.

## GRADUATES.

1836

Thomas F. Cock, *M. D.*, LL. D.  
Joseph Walton.

1837

\*William C. Longstreth, \* 1881  
\*David C. Murray, \* 1885  
\*Lindley Murray  
\*Benjamin V. Marsh, \* 1882  
\*Joseph L. Pennock, \* 1870  
Robert B. Parsons  
\*Charles L. Sharpless, \* 1882  
\*Lloyd P. Smith, A. M., \* 1886  
\*B. Wyatt Wistar, \* 1869

1838

\*James V. Emlen, *M. D.*, \* 1880  
\*John Elliott, \* 1893

1839

\*Frederic Collins, \* 1892  
Thomas P. Cope  
Henry Hartshorne, *M. D.*, A. M.,  
*LL.D.*  
\*Nereus Mendenhall, *M. D.*, \* 1893  
Richard Randolph, Jr., *M. D.*  
\*Charles Taber, \* 1887

1840

\*Joseph Howell, \* 1889  
Anthony M. Kimber  
\*Henry H. G. Sharpless, \* 1870  
\*John R. Winslow, *M. D.*, \* 1866

1841

\*Richard H. Lawrence, \* 1847  
\*James P. Perot, \* 1872  
\*Elias A. White, \* 1866

1842

Robert Bowne  
Richard Cadbury  
\*William S. Hilles, \* 1876  
\*Thomas Kimber, Jr., LL.D. \* 1890  
\*James J. Levick, *M. D.*, A. M.,  
\* 1893  
Edmund Rodman, A. M.  
Thomas R. Rodman, *A. B.*  
Benjamin R. Smith  
Augustus Taber  
Caleb Winslow, *M. D.*, \* 1895

1843

Robert B. Howland  
Francis White  
\*William D. Stroud, *M. D.*, \* 1883

1844

Evan T. Ellis  
\*Robert B. Haines, \* 1895  
Isaac Hartshorne

1845

\*Edmund A. Crenshaw, \* 1894  
\*Robert Pearsall, \* 1849

1849

Albert K. Smiley, A. M.  
Alfred H. Smiley, A. M.

1851

Joseph L. Bailey  
Philip C. Garrett  
Thomas J. Levick  
Franklin E. Paige, A. M.

Zaccheus Test, *M. D.*, A. M.  
James C. Thomas, *M. D.*, A. M.  
Richard Wood

1852

Dougan Clark, *M. D.*  
Lewis N. Hopkins  
William L. Kinsman  
William E. Newhall  
James Whitall

1853

William B. Morgan, A. M.  
William H. Pancoast, *M. D.*,  
A. M.

1854

Frederick Arthur, Jr.  
John W. Cadbury  
John B. Garrett  
David Scull, Jr.

1855

\*Samuel Bettle,\* 1859  
John R. Hubbard, A. M.

1856

Bartholomew W. Beesley  
Joel Cadbury, Jr.  
Jonathan J. Comfort, *M. D.*  
\*James M. Walton,\* 1874  
Edward R. Wood, A. M.

1857

Jesse S. Cheney, A. M.  
\*Cyrus Mendenhall,\* 1858  
Stephen Wood

1858

\*Thomas H. Burgess,\* 1893  
Thomas Clark  
Daniel W. Hunt  
\*Samuel T. Satterthwaite,\* 1865  
William G. Tyler  
Thomas Wistar, A. M., *M. D.*  
Ellis H. Yarnall, *L.L. B.*

1859

\*Richard W. Chase,\* 1865  
James R. Magee.  
\*Richard C. Paxson,\* 1864.  
\*Edward Rhoads, *M. D.*,\* 1871.  
Edward C. Sampson

\*George Sampson,\* 1872  
Abram Sharples, *M. D.*  
Benjamin H. Smith.

1860

\*Lindley M. Clark,\* 1861  
\*William B. Corbit, *M. D.*,\* 1882  
\*William M. Corlies,\* 1881  
Cyrus Lindley  
Theodore H. Morris  
Frederick W. Morris  
Richard Pancoast  
John W. Pinkham, *M. D.*  
Francis Richardson  
Clement L. Smith, A. M., *L.L. D.*  
James Tyson, *M. D.*, A. M.  
Silas A. Underhill, *L.L. B.*

1861

Edward Bettle, Jr.  
\*Henry Bettle,\* 1886  
\*Charles Bettle,\* 1883  
William B. Broomall  
Charles H. Jones  
\*Thomas W. Lamb, A. M., *M.*  
*D.*,\* 1878  
William N. Potts  
Jehu H. Stuart, A. M., *M. D.*  
John C. Thomas

1862

Henry T. Coates, A. M.  
\*Samuel A. Hadley,\* 1864  
Horace G. Lippincott  
George B. Mellor  
Horace Williams, *M. D.*  
\*Isaac F. Wood,\* 1895

1863

Thomas J. Battey, A. M.  
\*George M. Coates, Jr., A. M.,\*  
1894  
William M. Coates  
\*Richard T. Jones,\* 1869  
William H. Morris  
Joseph G. Pinkham, *M. D.*, A. M.

1864

\*Franklin Angell, A. M.,\* 1882  
\*William Ashbridge, *M. D.*,\* 1884  
Edward H. Coates  
Howard M. Cooper, A. M.  
Albin Garrett



Morris Longstreth, *A. B., M. D.,*  
A. M.

Albert Pancoast

Charles Roberts

\*E. Pope Sampson,\* 1893

\*Edward L. Scull,\* 1884

\*Randolph Wood,\* 1876

1865

John R. Bringhurst

\*Edward T. Brown,\* 1892

James A. Chase

Joseph M. Downing

Arthur Haviland

\*David H. Nichols,\* 1865

Henry W. Sharpless

\*George Smith, Jr.,\* 1872

Robert B. Taber, A. M.

Allen C. Thomas, A. M.

Benjamin A. Vail

Caleb Cresson Wistar

1866

A. Marshall Elliott, A. M.

Benjamin E. Valentine, *LL. B.*

1867

\*John Ashbridge,\* 1881

George Ashbridge, A. M. *LL. B.*

William P. Clark, A. M., *LL. B.*

Samuel C. Collins, A. M.

Nathaniel B. Creushaw

Charles H. Darlington, A. M.

\*William T. Dorsey, *M. D.,*\* 1870

B. Franklin Eshleman

Richard M. Jones, A. M., *LL. D.*

\*Charles W. Sharpless,\* 1889

Walter Wood

1868

Edward H. Cook

\*Alexis T. Cope,\* 1883

Benjamin C. Satterthwaite

Louis Starr, *M. D.*

S. Finley Tomlinson

Joseph H. Wills, A. M., *M. D.*

1869

Johns H. Congdon

Henry A. Cope, A. M.

Ludovick Estes, *A. M., Ph. D.*

\*Henry Eval, A. M.,\* 1877

\*William B. Kaighn,\* 1876

Pendleton King, A. M.

William H. Randolph

Edward B. Taylor, *M. C. E.*

William S. Taylor

James G. Whitlock

Walter Wood

Henry Wood, *Ph. D.*

1870

J. Stuart Brown

John E. Carey

Alford G. Coale

Howard Comfort

T. Allen Hilles

William H. Hubbard, *M. D.*

\*Thomas K. Longstreth, A. M.,  
\*1883

Oliver G. Owen, A. M.

Charles E. Pratt, A. M.

David F. Rose

\*John D. Steele,\* 1886

Charles Wood, A. M.

Stuart Wood, *Ph. D.*

1871

Henry G. Brown

\*William P. Evans,\* 1893

John S. Garrigues

Reuben Haines, A. M.

William H. Haines

Joseph Hartshorne

Jesse F. Hoskins

Walter T. Moore

Ellis B. Reeves

Alfred R. Roberts, *C. E.*

Charles S. Taylor

Edward D. Thurston

Randolph Winslow, *M. D., A. M.*

1872

Richard Ashbridge, *M. D.*

Richard T. Cadbury, *A. B., A.*  
*M.*

James Carey, Jr., *LL. B.*

Thomas S. Downing, Jr.

Walter Erben

Thomas Roland Estes

John E. Forsythe

William H. Gibbons, A. M.

Francis B. Gummere, *A. B., A.*  
*M., Ph. D.*

Casper William Haines, A. M.,  
*C. E.*

Abram Francis Huston

\*Marmaduke Cope Kimber, A.  
M.,\* 1878

William M. Longstreth

Richard H. Thomas, *M. D.*

1873

James C. Comfort  
 Thomas P. Cope, Jr.  
 George W. Emlen  
 Joseph M. Fox  
 Henry C. Haines  
 Benjamin H. Lowry, A. M.  
 Alden Sampson, A. M., A. B.,  
 A. M.

\*Julius L. Tomlinson, A. M., \*1890

1874

Edward P. Allinson, A. M.  
 John G. Bullock  
 James Emlen  
 Charles R. Hartshorne, LL. B.  
 Samuel E. Hilles  
 John B. Jones  
 \*Mahlon Kirkbride, \*1889  
 Theophilus P. Price  
 James B. Thompson  
 Joseph Trotter

1875

Edward K. Bispham  
 Alonzo Brown, A. M.  
 J. Franklin Davis, A. M.  
 Charles E. Haines  
 William Hunt, Jr.  
 Charles L. Huston  
 Harold P. Newlin  
 Walter W. Pharo  
 Charles E. Tebbetts  
 Miles White, Jr.

1876

Francis G. Allinson, A. M., Ph. D.  
 David S. Bispham  
 Reuben Colton  
 Henry W. Dudley  
 Seth K. Gifford, A. M.  
 L. Lyndon Hobbs, A. M.  
 Richard H. Holme  
 \*Thomas William Kimber, \*1885  
 Charles A. Longstreth  
 J. Whitall Nicholson  
 Percival Roberts, Jr.  
 Frank H. Taylor  
 Howard G. Taylor  
 \*Lewis A. Taylor, 1881

1877

A. B.  
 Isaac W. Anderson  
 Frederic L. Bailly

Isaac Forsythe  
 James D. Krider  
 George G. Mercer, LL. M., J.  
 C. D.

Wilson Townsend  
 S. B.

William F. Smith

1878

A. B.

Henry Bailly, A. B., A. M.  
 Albert L. Bailly  
 Francis K. Carey, LL. B., A. M.  
 Edward T. Comfort  
 Charles S. Crosman, A. B., LL. B.  
 Samuel Hill, A. B.  
 Lindley M. H. Reynolds  
 Daniel Smiley, Jr.  
 Henry L. Taylor, A. M., M. D.  
 John M. W. Thomas  
 George W. White

S. B.

Jonathan Eldridge  
 Edward Forsythe  
 Cyrus P. Frazier, A. B.  
 Robert B. Haines, Jr.  
 Henry N. Stokes, Ph. D.

1879

A. B.

Samuel Bispham, Jr.  
 Edward Gibbons  
 John H. Gifford, M. D.  
 Francis Henderson, LL. B.  
 William C. Lowry  
 John B. Newkirk  
 John E. Sheppard, Jr. M. D.

1880

A. B.

Charles F. Brédé, A. M.  
 Charles E. Cox  
 Josiah P. Edwards  
 James L. Lynch  
 Samuel Mason, Jr.  
 William F. Perry  
 Joseph Rhoads, Jr., A. M.

S. B.

William Bishop  
 Alexander P. Corbit  
 Charles E. Gause, Jr.  
 Edward M. Jones

1881

A. B.

William A. Blair, *A. M.*  
 A. Morris Carey  
 Levi T. Edwards, *A. M.*  
 Edward Y. Hartshorne  
 Isaac T. Johnson, *A. M.*  
 Edwin O. Kennard  
 Jesse H. Moore  
 William E. Page  
 Walter F. Price, *A. M.*, *A. M.*  
 Thomas N. Winslow  
 John C. Winston

S. B.

Walter Brinton  
 William A. Collins, *A. M.*  
 Joseph H. Cook  
 Davis H. Forsythe  
 Albanus L. Smith

1882

A. B.

George A. Barton, *A. M.*, *A. M.*,  
*Ph.*, *D.*  
 Isaac M. Cox  
 Richard B. Hazard  
 Wilmot R. Jones  
 \*Wilmer P. Leeds, \* 1885  
 J. Henley Morgan  
 Edward Randolph

S. B.

John E. Coffin  
 Daniel Corbit  
 George L. Crosman  
 Frederic D. Jones  
 T. Chalkley Palmer  
 Lindley M. Winston

1883

A. B.

John Blanchard, *LL. B.*  
 Frank E. Briggs  
 George H. Evans  
 Francis B. Stuart  
 Bond V. Thomas  
 Thos. K. Worthington, *LL. B.*,  
*Ph. D.*

S. B.

William L. Bailv  
 Stephen W. Collins, *LL. B.*

D. William Edwards  
 William E. Scull  
 \*Samuel B. Shoemaker, *M. D.*,  
 \*1893.  
 ohn D. Spruance  
 W. Alpheus White  
 Charles H. Whitney  
 Louis B. Whitney

1884

A. B.

John Henry Allen, *A. M.*  
 Orren William Bates  
 Thomas Herbert Chase  
 William J. Haines  
 Arthur D. Hall  
 Charles R. Jacob  
 Alfred Percival Smith, *LL. B.*

S. B.

Louis T. Hill  
 Walter L. Moore  
 George Vaux, Jr., *LL. B.*

L. B.

Francis A. White

1885

A. B.

Samuel Bettle  
 Enos L. Doan  
 William T. Ferris  
 William S. Hilles  
 William T. Hussey  
 Arthur W. Jones, *A. M.*  
 Rufus M. Jones, *LL. B.*  
 Joseph L. Markley, *A. M.*, *A. M.*,  
*Ph. D.*  
 Marriot C. Morris  
 Augustus T. Murray, *Ph. D.*  
 Augustus H. Reeve  
 William F. Reeve  
 Isaac Sutton, *A. M.*, *A. M.*  
 Elias H. White, *LL. B.*  
 William F. Wickersham, *A. M.*

S. B.

Charles W. Bailv  
 John J. Blair  
 Thomas Newlin, *A. M.*  
 Theodore W. Richards, *A. M.*,  
*Ph. D.*  
 \*Matthew T. Wilson, \* 1891

1886

A. B.

Jonathan Dickinson, Jr.  
 Alexander H. Scott  
 Horace E. Smith  
 Edward D. Wadsworth, *LL. B.*

S. B.

\*Thomas W. Betts, \* 1893  
 Guy R. Johnson  
 William S. McFarland  
 \*Israel Morris, Jr., \* 1891  
 William P. Morris  
 Alfred M. Underhill, Jr.  
 Wilfred W. White

1887

A. B.

Jay Howe Adams, *M. D.*  
 Edward B. Cassatt  
 William H. Futrell, *LL. B.*  
 Alfred C. Garrett, *A. B., A. M.,*  
*Ph. D.*  
 Henry H. Goddard, *A. M.*  
 Willis Hatfield Hazard, *A. M.,*  
*Ph. D.*  
 Barker Newhall, *A. M., Ph. D.*  
 Jesse E. Philips, Jr., *A. M.*  
 Henry W. Stokes  
 Frederic H. Strawbridge  
 Richard J. White  
 \*George B. Wood, \* 1895.  
 William C. Wood

S. B.

\*Arthur H. Baily, \* 1889  
 Charles H. Bedell  
 Allen B. Clement, *A. M.*  
 Horace Y. Evans, Jr.  
 Hugh Lesley  
 \*William W. Trimble, \* 1891

B. E.

P. Hollingsworth Morris

1888

A. B.

E. Morris Cox  
 Howell S. England, *A. M.*  
 Allison W. Slocum, *A. M., Ph. D.*  
 Martin B. Stubbs, *A. M.*

S. B.

Charles H. Battey  
 John C. Corbit, Jr.  
 Morris E. Leeds  
 William Draper Lewis, *LL. B.,*  
*Ph. D.*  
 Henry V. Gummere, *A. M., A. M.*  
 Francis C. Hartshorne, *LL. B.*  
 Joseph T. Hilles  
 George B. Roberts  
 Joseph W. Sharp, Jr.

B. E.

Lawrence P. Beidelman  
 Joseph E. Johnson, Jr., *M. E.*  
 Frederick W. Morris, Jr.  
 Richard J. Morris

1889

A. B.

Robert C. Banes  
 Thomas F. Branson, *M. D.*  
 Charles H. Burr, Jr., *A. M., LL. B.*  
 Thomas Evans  
 Warner H. Fite, *Ph. D.*  
 Warren C. Goodwin  
 Victor M. Haughton  
 Franklin B. Kirkbride  
 Daniel C. Lewis  
 Lawrence J. Morris  
 William F. Overman  
 Frank W. Pierson, *A. M.*  
 Samuel Prioleau Ravenel, Jr.,  
*LL. B.*  
 Walter George Reade  
 Lindley M. Stevens, *A. M.*  
 John Stoddell Stokes  
 \*Layton W. Todhunter, \* 1889  
 Frederick N. Vail, *A. M.*  
 Gilbert C. Wood

S. B.

William R. Dunton, *A. M., M. D.*  
 Arthur N. Leeds, *A. M.*  
 J. Henry Painter  
 David J. Reinhardt  
 Frank E. Thompson, *A. M.*

B. E.

Herbert Morris

1890

A. B.

Edward M. Angell, *LL. B.*  
 James Stuart Auchincloss

William G. Audenried, Jr.  
 Henry R. Bringhurst, Jr.  
 Charles T. Cottrell, A. M., *LL. B.*  
 Guy H. Davies  
 Robert E. Fox  
 Henry L. Gilbert, A. M., *Ph. D.*  
 William G. Jenkins  
 Thomas S. Kirkbride, Jr., *M. D.*  
 Jonathan M. Steere, A. M.

S. B.

Thomas Amory Coffin  
 Percy S. Darlington  
 William M. Guilford, Jr.  
 John N. Guss  
 Edwin J. Haley, A. M.  
 Robert R. Tatnall, A. M., *Ph. D.*  
 Dilworth P. Hibberd, A. M.  
 Alfred C. Tevis

B. E.

John F. Taylor Lewis  
 Edward R. Longstreth  
 William Percy Simpson  
 Ernest Foster Walton

1891

A. B.

Harry Alger  
 David H. Blair  
 Henry A. Todd

S. B.

William W. Handy  
 Arthur Hoopes  
 John Wetherill Hutton, A. M.  
 David L. Meckel, M. E.  
 John Stokes Morris, A. M.  
 George Thomas, 3d

1892

A. B.

Richard Brinton  
 I. Harvey Brumbaugh, *A. B.*  
 Benjamin Cadbury, A. M.  
 Joseph Henry Dennis  
 Warren A. Detwiler  
 Rufus Hacker Hall  
 Walter Morris Hart, A. M.  
 Gilbert Joseph Palen, *M. D.*  
 Ralph Warren Stone  
 W. Nelson Loflin West, *LL. B.*  
 Stanley Rhoads Yarnall, A. M.

S. B.

Augustine W. Blair  
 Egbert Snell Cary  
 Minturn Post Collins  
 Charles Gilpin Cook, A. M.  
 William Pearson Jenks  
 Franklin McAllister  
 John Walingford Muir  
 William Hopkins Nicholson, Jr.  
 William Ellis Shipley  
 Joseph Remington Wood

1893

A. B.

Leslie Adelbert Bailey, A. M.  
 \*John Farnum Brown,\* 1894  
 Wilbur Albert Estes  
 Walter Winchip Haviland  
 Clarence Gilbert Hoag, *A. B.*  
 Carrol Brinton Jacobs  
 George Lindley Jones  
 Charles Osborne  
 Charles James Rhoads  
 Eugene M. Westcott  
 \*Franklin Whitall,\* 1894  
 Gifford King Wright

S. B.

Francis F. Davis, A. M.  
 Arthur Villiers Morton  
 John Mickle Okie  
 Edward Rhoads  
 John Roberts  
 Barton Sensenig  
 William Sansom Vaux, Jr.  
 Edward Woolman

1894

A. B.

George A. Beyerle  
 Charles Collins  
 William Wistar Comfort, *A. B.*  
 John Allen De Cou, *A. B.*  
 Clifford Bailey Farr  
 John Paul Haughton  
 James Edward Hughes  
 Louis Jaquette Palmer  
 Frank Clayton Rex  
 Frederick Pearce Ristine  
 Francis Joseph Stokes  
 David Shearman Taber, Jr.  
 Parker Shortridge Williams.

	S. B.	Frank Henry Conklin
		Charles Howland Cookman
J. Henry Bartlett		James Linton Engle
Oscar Marshall Chase, S. M.		Joseph Spragg Evans, Jr.
Henry Shoemaker Conard, A. M.		Henry John Harris
George Brookhouse Dean		George Lippincott
Kane Stovell Green		
Anson Burlingame Harvey, A. M.	S. B.	
Samuel Wheeler Morris		William Goodman
Edward Entwisle Quimby		Arthur Moorhead Hay
Henry Wisner Scarborough, A. M.		Erroll Baldwin Hay
William Justus Strawbridge		William Smedley Hilles
1895.		John Bacon Leeds
A. B.		Charles Clifford Taylor
Samuel Bettle, Jr.		Allen Curry Thomas
Edmund Blanchard, Jr.		Henry Evan Thomas
Samuel Hulme Brown		Walter Coates Webster

Whole number of graduates, 559.

The following graduate students have received Advanced Degrees, not having been undergraduates at Haverford :

1890.

William B. Eaton, A. B., Wesleyan, 1889, A. M.  
 Charles L. Michener, A. B., Penn, 1884, A. M.  
 Charles E. Pritchard, A. B., Earlham, 1889, A. M.  
 Robert W. Rogers, A. B., Johns Hopkins, 1887, Ph. D.  
 William C. Sayrs, A. B., Wilmington, 1889, A. M.  
 Charles E. Terrell, S. B., Wilmington, 1888, A. M.  
 Charles H. Thurber, Ph. B., Cornell, 1886, A. M.

1891

Lawrence M. Byers, A. B., Penn, 1890, A. M.  
 William H. Carroll, A. B., Wilmington, 1890, A. M.  
 Myron F. Hill, A. B., Harvard, 1890, A. M.  
 Lucian M. Robinson, A. B., Harvard, 1882, A. M.

1892

Elmer A. Gifford, S. B., Penn, 1888, A. M.  
 Byron Charles Hubbard, S. B., Earlham, 1891, A. M.

1893

Irving Culver Johnson, S. B., Penn, 1892, A. M.  
 Leonard Charles Van Noppen, A. B., Guilford, 1890, B. L.,  
 Univ. N. C., 1892, A. M.

1894.

Franklin A. Dakin, A. B., Harvard, 1892, A. M.  
 William W. Hastings, A. B. and A. M., Maryville, 1886 and  
 1892, A. M.  
 Mahlon Z. Kirk, S. B., Penn, 1893, A. M.  
 Arthur R. Spaid, A. B., Wilmington, 1893, A. M.

Edwin Mood Wilson, A. B., Guilford 1892, A. B. Univ. N. C.,  
1893, A. M.

1895

Ira O. Kemble, S. B., Penn, 1894, A. M.

John Oscar Villars, S. B., Wilmington, 1894, A. M.

Roy Wilson White, S. B., Earlham, 1894, A. M.

## Honorary Degrees.

- |                                  |                                    |
|----------------------------------|------------------------------------|
| 1858                             | Thomas Hughes, LL. D.              |
| Hugh D. Vail, A. M.              | 1882                               |
| 1859                             | Henry T. Coates, A. M.             |
| *Joseph W. Aldrich, A. M.,* 1865 | 1883                               |
| 1860                             | Thomas F. Cock, LL. D.             |
| *John G. Whittier, A. M.,* 1892  | James Wood, A. M.                  |
| 1894                             | Henry N. Hoxie, A. M.              |
| Edward D. Cope, A. M.            | 1884                               |
| 1867                             | *Joseph Parrish, A. M.,* 1893      |
| Joseph Moore, A. M.              | Elijah Cook, A. M.                 |
| 1872                             | 1885                               |
| William Jacobs, A. M.            | *Julius L. Tomlinson, A. M.,* 1890 |
| 1875                             | Robert Howland Chase, A. M.        |
| *Samuel Alsop, Jr., A. M.,* 1888 | 1886                               |
| 1876                             | Edward H. Magill, LL. D.           |
| *Pliny E. Chase, LL. D.,* 1886   | 1887                               |
| William H. Pancoast, A. M.       | *Thomas Kimber, LL. D.,* 1890      |
| 1877                             | 1888                               |
| John J. Thomas, A. M.,* 1894     | Clement L. Smith, LL. D.           |
| 1879                             | 1890                               |
| Richard M. Jones, A. M.          | Joseph John Mills, LL. D.          |
| Ellis Yarnall, A. M.             | 1891                               |
| 1880                             | Richard M. Jones, LL. D.           |
| *Thomas Chase, LL. D.,* 1892     | 1895                               |
|                                  | Henry Trimble, A. M.               |

## Holders of the Haverford Fellowship.

---

1889-90,	{ CHARLES H. BURR.
	{ FRANK E. THOMPSON.
1890-91,	DILWORTH P. HIBBERD.
1891-92,	DAVID LANE MEKEEL.
1892-93,	STANLEY RHOADS YARNALL.
1893-94,	FRANCIS F. DAVIS.
1894-95,	HENRY S. CONARD





# HAVERFORD COLLEGE STUDIES.

---

- No. 1.—The Library of the Convent of the Holy Sepulchre at Jerusalem ; J. Rendel Harris.  
 Work of Haverford College Observatory ; F. P. Leavenworth.  
 On the Geometry of a Nodal Circular Cubic ; Frank Morley.  
 On the Period of Rotation of the Sun ; Henry Crew.  
 On the Symbolic Use of the Colors Black and White in Germanic Tradition ; Francis B. Gummere.
- No. 2.—The Rest of the Words of Baruch ; J. Rendel Harris.  
 Some Esarhaddon Inscriptions ; Robert W. Rogers.
- No. 3.—The Passion of Perpetua ; J. Rendel Harris and Seth K. Gifford,  
 On Some Properties of the Triangle ; Frank Morley.
- No. 4.—On the Numerical Characteristics of a Cubic Curve ; Charlotte Angas Scott.  
 On the Caustic of the Epicycloid ; Frank Morley.  
 Sun Spot Observations ; H. V. Gummere and F. P. Leavenworth.  
 On a New Manuscript of the Four Gospels ; W. C. Braithwaite.  
 A Catalogue of Manuscripts (chiefly Oriental) in the Library of Haverford College ; Robert W. Rogers.  
 The Passion of Perpetua ; translated by Seth K. Gifford.  
 Specimens of Uncial Lectionaries from Mount Sinai ; J. Rendel Harris.
- No. 5.—The Diatessaron of Tatian, a Preliminary Study ; J. Rendel Harris.
- Nos. 6 and 7.—The Apology of Aristides ; J. Rendel Harris.
- No. 8.—The Codex Bezae ; J. Rendel Harris.
- No. 9.—The Codex Sangallensis ; J. Rendel Harris.  
 Unpublished Inscriptions of Esarhaddon ; Robert W. Rogers.
- No. 10.—Some Interesting Inscriptions ; J. Rendel Harris.  
 Stellar Parallax ; F. P. Leavenworth.  
 Conform Representation by means of the  $p$ -Function ; Frank Morley.
- No. 11.—Municipal Government in England ; Isaac Sharpless.  
 Myth and Allegory ; Francis B. Gummere.  
 Prof. Ewing's Theory of Magnetism ; Arthur Hoopes.  
 New Method of Obtaining a Constant Temperature ; Henry Crew.  
 Errors from the Use of Decimals ; Ernest W. Brown.  
 Parallax of Delta Herculis ; F. P. Leavenworth.  
 Double Star and Sun Spot Observations ; F. P. Leavenworth and W. H. Collins.
- No. 12.—The Familists ; Allen C. Thomas.  
 On the Reading of "τὸ πᾶσχα" in John vi, 4 ; George A. Barton.  
 Our Lord's Quotation from the First Book of Maccabees ; Albert J. Edmunds.  
 Parallax of  $\theta$ . Arg., 14320, and of  $\delta$  Equilei ; Francis P. Leavenworth.  
 Double Star Observations ; William H. Collins.  
 Observations of Variable Stars ; George L. Jones.  
 Observations of the Partial Eclipse of the Sun, October 20th, 1892 ; William H. Collins.

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PRICE, ONE DOLLAR PER NUMBER.

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Other numbers will appear as material accumulates.

For copies address

*The Secretary of Haverford College,*

*Haverford P. O., Pa.*

# HAVERFORD COLLEGE



1896-97

THE PRESIDENT desires to place a copy of the Annual Catalogue in the hands of every alumnus and member of the corporation. It is requested that all omissions and errors whether of names or degrees be reported to the Secretary of the College.

# CATALOGUE

OF

# HAVERFORD COLLEGE

HAVERFORD, PA.

1896-97



PHILADELPHIA  
PRESS OF AUSTIN C. LEEDS  
817 FILBERT STREET  
1896

## CALENDAR.

### 1896-97.

College Year 1896-97 began.....	9th Mo.	23
Winter Recess begins.....	12th Mo.	23
Winter Term begins, 1897 *.....	1st Mo.	5
Mid-year Examinations begin.....	1st Mo.	23
Second Half-year begins.....	2d Mo.	1
Junior Exercises.....	4th Mo.	14
Spring Recess begins.....	4th Mo.	15
Spring Term begins *.....	4th Mo.	27
Alumni Meeting.....	6th Mo.	9
Examinations for Admission, 9.30 A. M.....	6th Mo.	10
Senior Class Day.....	6th Mo.	10
Commencement Day, 1897.....	6th Mo.	11

### VACATION.

#### 1897-98.

Examinations for Admission, 9.30 A. M.....	9th Mo.	21
College Year 1897-98 begins *.....	9th Mo.	22
Winter Recess begins.....	12th Mo.	23
Winter Term begins 1898 *.....	1st Mo.	4
Second Half-year begins.....	2d Mo.	1
Commencement Day, 1898.....	6th Mo.	10

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\*The first recitations at the beginning of each term are due promptly at *half-past nine o'clock*. No absences from them are excused, unless clearly unavoidable.

HISTORY AND DESCRIPTION.

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IN the spring of 1830, a meeting of a few Friends in Philadelphia, shortly followed by a similar meeting in New York, originated Haverford School. The joint committee expressed the object of the effort as follows: "The members of the Society of Friends, having hitherto labored under great disadvantages in obtaining for their children a guarded education in the higher branches of learning, combining the requisite literary instruction with a religious care over the morals and manners of the scholars, . . . and carefully preserving them from the influence of corrupt principles and evil communications, it is therefore proposed that an institution be established in which the children of Friends shall receive a liberal education in ancient and modern literature, and the mathematical and other sciences."

The \$40,000 supposed to be necessary was raised without great effort, and the committee went out to seek a location. They say: "We wished to procure a farm in a neighborhood of unquestionable salubrity—within a short distance of a Friends' meeting—of easy access from this city at all seasons of the year, . . . and that was recommended by the beauty of the scenery and a retired situation." They then go on to say that of the many places presented to them the only one which combined all the advantages was one of 198½ acres (since increased to 215), "near the eight-mile stone on the Lancaster Turnpike." They explain the present and prospective merits of the farm, the beauty of the natural woods, the unfailing springs of purest water, the nearness to the new Pennsylvania Railroad, in words which the succeeding half-century has amply justified.

On the 28th of Tenth month, 1833, the school opened with 21 students. Provision had been made for a superintendent and three teachers,—

“A Teacher of Ancient Languages and Ancient Literature.

“A Teacher of English Literature, and Mental and Moral Philosophy.

“A Teacher of Mathematics and Natural Philosophy.”

The Superintendent was to have charge of the government, order, and domestic economy of the family.

The regulations of the new school were rigid. The bounds and time of the boys were very strictly marked out. All the details of the daily programme were arranged with great care ; and if the elaborate provision of a number of wise men for the normal growth of students could convert boys into perfect men, the students of sixty years ago had every advantage.

The High School thus established grew rapidly into prosperity and debt. The charges were low, the teachers were liberally paid, and the years which followed were marked by a constant endeavor to produce a maximum of good fruits from very limited funds. The deficiencies were made up in a liberal spirit, and a constant growth was maintained by frequent subscriptions. All the time the school was justifying the effort by the quality of its results, and making for itself an increasing number of friends.

One of the first acts of the committee, after absolute necessities were provided for, was to construct a gymnasium, and make arrangements for systematical physical work. They were determined that the advantage gained by the salubrity of the surroundings should not be lost for want of exercise. Under their care the lawn was graded at great expense, and foreign and native trees set out, with the design to make it a great arboretum. Cricket, a game not known elsewhere in America, was introduced, and has flourished since. A greenhouse and flower-garden were established and maintained for twenty years by the work of the boys. The idea that has done harm elsewhere, that schools are places for mental development only, had no foothold here ; but morals, muscles, and senses received their due share of culture.

In 1845 a temporary suspension was decreed, to allow the funds to accumulate and give time for the collection of an endowment. This suspension lasted for three years. In 1852 the observatory



was built, and supplied with an 8-inch equatorial and a 4-inch transit. In 1856 the school was changed to a college, and was authorized by the legislature to grant degrees ; but previous to this time the course had been as extended as in many colleges. It was still hampered with a preparatory department, which was not abolished till 1861. In 1863 the Alumni Hall and Library were built. In 1876-7 Barclay Hall, containing private dormitories and study-rooms was erected, at a cost of \$82,000, which was collected by subscription. The Chemical Laboratories were improved in 1878. The new Observatory was built in 1883; the Mechanical Laboratory established in 1884, and was provided with a new building in 1890. This was burned down in 1896, and a new three-story stone structure built. The Biological Laboratory was established in 1886, and the Physical Laboratory in 1888. Chase Hall, for lectures and recitations, was built in 1888, and the Cricket Shed in 1893. Various donations and bequests were received during these years, and in 1897 was paid to the College the Jacob P. Jones endowment of more than half a million dollars.

During this time Haverford had developed into a fully-organized college. Many rules, adapted to boys of boarding-school age, had been modified or abandoned, though enough of restraint was retained to provide against demoralization. The standard of admission was raised. Students of any denomination were admitted, though Friends still retained the general control. The number of teachers was increased five-fold. By various donations and bequests the endowment fund was enlarged. The annual charge was increased from \$200 to \$500,\* which still fails to represent what the college has to pay for professors' salaries and the board and care of students. Retaining the old idea of a " guarded education " and " a religious care over morals and manners," the college has sought to effect these results, and has measurably succeeded, rather by appeals to Christian principle and manliness than by arbitrary power.

In Barclay Hall, the hall of residence, two students occupy a study-room, and each has his private adjoining bed-room. A few

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\* The price may vary, depending on the situation of the room, from \$400 to \$525. Most of the rooms involve a payment of \$500.

single rooms are also provided. Recitation-rooms, laboratories, and the dining-room are in Founders' Hall. The Library and Observatory are in separate buildings near by. Some of the professors live in the halls with the students, and others have cottages on the grounds.

The college has a remarkably pleasant and healthful location in the township of Haverford, Delaware County,\* Pa., nine miles west of Philadelphia, on the main line of the Pennsylvania Railroad. The buildings are surrounded by grounds of about sixty acres, tastefully laid out, and adorned with well-kept lawns, and a great variety of trees and shrubbery. These grounds comprise excellent fields for cricket, foot-ball, tennis, and other field games, a running and bicycle track, and a pond for skating.

The courses of study are designed to give a liberal education. Their scope will be seen on the following pages. Religious instruction is carefully provided. In addition to the daily reading of the Holy Scriptures, recitations in the English or Greek New Testament or in Scripture History are required of the student once a week. By exposition and collateral information the instructors endeavor to enforce the true meaning of the lessons. Haverford College desires to inculcate the simple truths of the Christian religion.

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\* Haverford *Post-Office* is in Montgomery County.

CORPORATION.

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233 Chestnut Street, Philadelphia.

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Girard Building, Philadelphia.

*Treasurer,*

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529 Arch Street, Philadelphia.

---

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JAMES WOOD.

FACULTY.

---

ISAAC SHARPLESS, Sc. D., LL. D., PRESIDENT,  
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ALLEN C. THOMAS, A. M., LIBRARIAN,  
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Professor of Greek.

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Professor of Mechanics and Physics.

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Professor of French.

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FRANK MORLEY, A. M.,  
Professor of Pure Mathematics.

ERNEST WILLIAM BROWN, A. M.,  
Professor of Applied Mathematics.

WILFRED P. MUSTARD, PH. D.,  
Professor of Latin.

WILLIAM H. COLLINS, A. M.,  
Director of the Observatory.

HENRY S. PRATT, PH. D.,

Instructor in Biology (David Scull Foundation).

JAMES A. BABBITT, A. M., REGISTRAR,

and Instructor in Physical Training.

RUFUS M. JONES, A. M.,

Instructor in Philosophy.

ROELIFF MORTON BRECKENRIDGE, PH. D.,

Instructor in Political Science.

ARTHUR C. L. BROWN, A. M.,

Instructor in English.

OSCAR MARSHALL CHASE, S. M.,

Instructor in Drawing.

HOMER J. WEBSTER, S. B.,

Assistant in the Library.

ALFRED S. HAINES,

Secretary of the College.

## GRADUATE STUDENTS.

---

WILLIAM OTIS BEAL, S. B. (Earlham, 1896),  
Earlham Fellow. Quaker, Mich.  
*Major Subject*—Astronomy.

FRANK WHITTIER ELSE, A. B. (Penn, 1896),  
Penn Fellow. Oskaloosa, Iowa.  
*Major Subject*—American History.

JOHN ASHBY LESTER, A. B. (Haverford 1896),  
Haverford Fellow. Pasadena, Cal.  
*Major Subject*—English.

PAUL TASSO TERRELL, S. B. (Wilmington, 1896),  
Wilmington Fellow. Wilmington, Ohio.  
*Major Subject*—Mathematics.

HOMER JEPHTHA WEBSTER, S. B. (Haverford, 1896),  
Quaker City, Ohio.  
*Major Subject*—Mathematics.

## SENIOR CLASS.

---

Brown, Richard Cadbury,	<i>Westtown, Pa.,</i>	Arts.
Burns, William John,	<i>Bryn Mawr, Pa.,</i>	Science.
Collins, Alfred Morris,	<i>Philadelphia, Pa.,</i>	Special.
Darlington, Morton Pennock,	<i>Norway, Pa.,</i>	Arts.
Detwiler, Frank Hughes,	<i>Norristown, Pa.,</i>	Science.
Field, Elliot,	<i>Wayne, Pa.,</i>	Arts.
Hoffman, Benjamin Rose,	<i>Philadelphia, Pa.,</i>	Arts.
Howson, Charles Henry,	<i>Wayne, Pa.,</i>	Arts.
Hume, John Elias,	<i>Philadelphia, Pa.,</i>	Arts.
Hutton, Walter Pandrich,	<i>Berwyn, Pa.,</i>	Special.
Jacobs, Francis Brinton,	<i>West Chester, Pa.,</i>	Science.
Maxfield, Francis Norton,	<i>Amesbury, Mass.,</i>	Arts.
McCrea, Roswell Cheney,	<i>Norristown, Pa.,</i>	Arts.
Mendenhall, Ottis Earl,	<i>Lexington, N. C.,</i>	Arts.
Palmer, George Martin,	<i>Media, Pa.,</i>	Science.
Rodney, Warren Brown,	<i>Broomall, Pa.,</i>	Arts.
Tatnall, Charles Gibbons,	<i>Coatesville, Pa.,</i>	Science.
Thacher, Frank William,	<i>Florence, N. J.,</i>	Science.
Thomas, Edward,	<i>Haverford, Pa.,</i>	Arts.
White, Henry Alva,	<i>Belvidere, N. C.,</i>	Arts.

## JUNIOR CLASS.

---

Cadbury, William Warder,	<i>Philadelphia, Pa.,</i>	Arts.
Dean, Morris Burgess,	<i>Cincinnati, Ohio,</i>	Science.
Embree, John Gyger,	<i>Marshallton, Pa.,</i>	Science.
Gilpin, Vincent,	<i>West Chester, Pa.,</i>	Arts.
Haines, Joseph Howell,	<i>Germantown, Pa.,</i>	Arts.
Harding, Arthur Search,	<i>Philadelphia, Pa.,</i>	Arts.
Holloway, Walter Vail,	<i>West Liberty, Iowa,</i>	Arts.
Janney, Walter Coggeshall,	<i>Philadelphia, Pa.,</i>	Science.
Jones, Davis Godfrey,	<i>Wilmington, Del.,</i>	Science.
Rhoads, Samuel,	<i>Germantown, Pa.,</i>	Arts.
Scattergood, Alfred Garrett,	<i>Philadelphia, Pa.,</i>	Arts.
Stadelman, Frederick,	<i>Bala, Pa.,</i>	Arts.
Sterner, Ira Isbon,	<i>Keller's Church, Pa.,</i>	Arts.
Strawbridge, Francis Reeves,	<i>Germantown, Pa.,</i>	Science.
Swan, Frederick Asa,	<i>Lake Kerr, Fla.,</i>	Arts.
Taylor, Joseph Wright,	<i>Haverford, Pa.,</i>	Science.
Taylor, William Jordan,	<i>Cincinnati, Ohio,</i>	Science.
Varney, C. Arthur,	<i>Providence, R. I.,</i>	Arts.
Wilson, Robert North,	<i>Lenoir, N. C.,</i>	Arts.
Wistar, Thomas,	<i>Germantown, Pa.,</i>	Arts.
Wood, Richard Davis,	<i>Philadelphia, Pa.,</i>	Arts.



## SOPHOMORE CLASS.

---

Bathey, William Aldrich,	<i>Providence, R. I.,</i>	Science.
Bawden, William John,	<i>Bryn Mawr, Pa.,</i>	Arts.
Butler, James Edgar,	<i>Uwchland, Pa.,</i>	Science.
Carter, John Darlington,	<i>Lenape, Pa.,</i>	Science.
Chase, William Thomas, Jr.,	<i>Philadelphia, Pa.,</i>	Science.
Conklin, Edward,	<i>Brooklyn, N. Y.,</i>	Mechanical Eng.
DeCou, Benjamin Satterthwait,	<i>Moorestown, N. J.,</i>	Mechanical Eng.
Evans, Francis Algernon,	<i>Germantown, Pa.,</i>	Arts.
Haines, Alfred Sharpless,	<i>West Grove, Pa.,</i>	Arts.
Haines, Arthur,	<i>Philadelphia, Pa.,</i>	Science.
Jones, Rufus Horton,	<i>Deering, Me.,</i>	Arts.
Lee, Morris Matthews,	<i>Philadelphia, Pa.,</i>	Arts.
Lowry, Howard Haines,	<i>Philadelphia, Pa.,</i>	Arts.
Lycett, Edward Hough,	<i>Haverford, Pa.,</i>	Science.
Maule, Alfred Collins,	<i>Philadelphia, Pa.,</i>	Mechanical Eng.
Mellor, Ralph,	<i>Philadelphia, Pa.,</i>	Mechanical Eng.
Mifflin, Archer B.,	<i>Wayne, Pa.,</i>	Science.
Morris, Joseph Paul,	<i>Philadelphia, Pa.,</i>	Arts.
Redfield, John Howard, Jr.,	<i>Wayne, Pa.,</i>	Arts.
Richie, Elisha Roberts,	<i>Moorestown, N. J.,</i>	Science.
Shiple, Malcolm Augustus, Jr.,	<i>Germantown, Pa.,</i>	Arts.
Wild, Arthur Clement,	<i>Philadelphia, Pa.,</i>	Arts.
Wilson, Louis Round,	<i>Lenoir, N. C.,</i>	Arts.

## FRESHMAN CLASS.

---

Allen, Charles Jackson,	<i>Moorestown, N. J.,</i>	Mechanical Eng.
Burdette, Robert Jones, Jr.,	<i>Bryn Mawr, Pa.,</i>	Arts.
Carter, John Pim,	<i>Germantown, Pa.,</i>	Arts.
Cope, Francis Reeve, Jr.,	<i>Germantown, Pa.,</i>	Arts.
Chamberlain, William Reginald,	<i>Portland, Me.,</i>	Special.
Drinker, Henry Sandwith, Jr.,	<i>Haverford, Pa.,</i>	Arts.
Enulen, John Thompson,	<i>Germantown, Pa.,</i>	Arts.
Eshleman, Frank Mercur,	<i>Lancaster, Pa.</i>	Arts.
Febiger, Christian,	<i>Philadelphia, Pa.,</i>	Mechanical Eng.
Freedley, William Gardiner, Jr.,	<i>Philadelphia, Pa.,</i>	Special.
Freeman, Edward Dale,	<i>Warren, Pa.,</i>	Arts.
Hallett, Henry McLellan,	<i>Windham Centre, Me.,</i>	Arts.
Hinchman, Walter Swain,	<i>Philadelphia, Pa.,</i>	Arts.
Hoopes, Macmillan,	<i>Ogontz, Pa.,</i>	Mechanical Eng.
Howson, Furman Sheppard,	<i>Wayne, Pa.,</i>	Mechanical Eng.
Jenks, Horace Howard,	<i>Philadelphia, Pa.,</i>	Science.
Justice, William Warner, Jr.,	<i>Philadelphia, Pa.,</i>	Mechanical Eng.
Kingston, Henry Houston, Jr.,	<i>Philadelphia, Pa.,</i>	Special.
Levick, Henry Leurs d'In villiers,	<i>Bala, Pa.,</i>	Arts.
Lloyd, John Eshleman,	<i>Germantown, Pa.,</i>	Mechanical Eng.
Logan, James Addison, Jr.,	<i>Bala, Pa.,</i>	Special.
Lutz, Frank Eugene,	<i>Bloomsburg, Pa.,</i>	Arts.
Marshall, Moses,	<i>Lawrence, Mass.,</i>	Arts.
Mifflin, Samuel Wright,	<i>Wayne, Pa.,</i>	Arts.
Miller, Daniel,	<i>Glendale, Md.,</i>	Special.
Moorhouse, J. Kennedy,	<i>Pittsburg, Pa.,</i>	Arts.
Murphy, Grayson Mallet-Prevost,	<i>Atlantic City, N. J.</i>	Arts.
Ross, Robert John	<i>Ardmore, Pa.,</i>	Mechanical Eng.
Schober, George Mitchell,	<i>Haverford, Pa.,</i>	Mechanical Eng.
Seager, Schuyler Fiske,	<i>Hancock, Mich.,</i>	Arts.
Sensenig, Heber,	<i>Spring Grove, Pa.,</i>	Arts.
Sharpless, Fredrick Cope,	<i>Haverford, Pa.,</i>	Arts.
Stuart, Henry Harlan,	<i>Minneapolis, Minn.</i>	Arts.

# HAVERFORD COLLEGE.

15

Tatnall, Abram Gibbons,	<i>Coalesville, Pa.,</i>	Science.
Taylor, Edward Ballinger, Jr.,	<i>Sewickley, Pa.,</i>	Arts.
Taylor, Joseph McFerran,	<i>Philadelphia, Pa.,</i>	Arts.
Walter, Frank Keller,	<i>Point Pleasant, Pa.,</i>	Arts.
Wendell, Robert Stewart,	<i>Wayne, Pa.,</i>	Mechanical Eng.
White, Linden Harris,	<i>Philadelphia, Pa.,</i>	Arts.
Yocum, Charles Crawford,	<i>Ardmore, Pa.,</i>	Special.

## SUMMARY.

Graduate Students.....	5
Seniors.....	20
Juniors.....	21
Sophomores.....	23
Freshmen.....	40
	<hr/>
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## ADMISSION.

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CANDIDATES for the Freshman Class are admitted either by examination or on certificate.

The certificates of principals of first-class schools will, at the discretion of the President, be accepted in place of entrance examinations. Blank forms will be furnished on application. Certificates of private tutors will *not* be accepted.

Examinations are held twice a year, in the Sixth and Ninth months, beginning at 9.30 A. M. on the morning preceding Commencement Day and on the morning preceding the opening of the College year.

### SUBJECTS OF EXAMINATION

For all Candidates :

ENGLISH.\*—The Middle-States College requirements as follows, or equivalents :

I. *Reading*.—A certain number of books will be set for reading. The candidate will be required to present evidence of a general knowledge of the subject-matter, and to answer simple questions on the lives of the authors. The form of examination will usually be the writing of a paragraph or two on each of several topics, to be chosen by the candidate from a considerable number set before him in the examination paper. The treatment of these topics is designed to test the candidate's power of clear and accurate expression, and will call for only a general knowledge of the substance of the books. In place of this test, the candidate may present an

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\* NOTE.—No candidate will be accepted in English, whose work is notably defective in point of spelling, punctuation, idiom, or division into paragraphs.

exercise book, properly certified by his instructor, containing compositions or other written work done in connection with the reading of the books.

The books set for this part of the examination will be :

1897 : Shakspeare's *As You Like It* ; Defoe's *History of the Plague in London* ; Irving's *Tales of a Travelier* ; Hawthorne's *Twice Told Tales* ; Longfellow's *Evangeline* ; George Eliot's *Silas Marner*.

1898 : Milton's *Paradise Lost*, Books I. and II. ; Pope's *Iliad*, Books I. and XXII. ; *The Sir Roger de Coverley Papers in The Spectator* ; Goldsmith's *The Vicar of Wakefield* ; Coleridge's *Ancient Mariner* ; Southey's *Life of Nelson* ; Carlyle's *Essay on Burns* ; Lowell's *Vision of Sir Launfal* ; Hawthorne's *The House of the Seven Gables*.

II. *Study and Practice*.—This part of the examination presupposes the thorough study of each of the works named below. The examination will be upon the subject-matter, style and construction.

The books set for this part of the examination will be :

1897 : Shakspeare's *The Merchant of Venice* ; Burke's *Speech on Conciliation with America* ; Scott's *Marmion* ; Macaulay's *Life of Samuel Johnson*.

1898 : Shakspeare's *Macbeth* ; Burke's *Speech on Conciliation with America* ; De Quincey's *The Flight of a Tartar Tribe* ; Tennyson's *The Princess*.

HISTORY.—United States History, Greek and Roman History.

NOTE.—English History may be substituted for Ancient History in the case of students not presenting the Greek or Latin Language.

MATHEMATICS.—*Algebra*, including quadratic equations and radicals ; *Plane Geometry*.

NOTE.—*Solid Geometry* will be required of all students not presenting Greek.

SCIENCE.—Elementary Physics and Human Physiology will be required of all students presenting neither Greek nor Latin.

## TWO OF THE FOLLOWING LANGUAGES : \*

*Greek*.—A thorough knowledge of the Grammar, including scanning of hexameter verse ; Xenophon's *Anabasis*, four books ; Homer's *Iliad*, three books ; sight reading from Xenophon and Homer ; ability to write simple sentences in Greek with accents, — Jones's *Greek Composition*, twenty-five Exercises, will indicate the amount necessary.

*Latin*.—Cæsar's *Gallie War*, four books ; Vergil's *Æneid*, six books ; Cicero, six orations. Sight reading from Cicero, Cæsar, and Nepos. General questions on grammar, prosody, history, and mythology suggested by the text. Translation of easy prose from English into Latin, — Harkness, Parts I. and II., or Jones's Exercises will indicate the amount necessary.

*German*.—A thorough knowledge of the Grammar ; ability to read at sight ordinary prose or poetry, and to translate simple English sentences into German. The Joynes-Meissner Grammar is recommended. The minimum amount to be read may be indicated by Harris's *German Reader* ; Storm's *Immensee* and *Geschichten aus der Tonne* ; Schiller's *Jungfrau von Orleans*.

*French*.—A thorough knowledge of the Grammar ; ability to read at sight ordinary prose or poetry, and to translate simple English sentences into French. Grandgent's Grammar is recommended. The minimum amount to be read may be indicated as follows: Super's *French Reader*, Parts II., III., and IV. ; Erckmann-Chatrion's *Madame Thérèse* ; Labiche's *Le Voyage de M. Perrichon*, Sand's *La Mare au Diable* ; Coppée's *Le Luthier de Crémone*.

Equivalents will be accepted in all the linguistic requirements.

Students not able to pass all the examinations may be conditioned on a limited number.

Students not candidates for a degree may, at the discretion of the Faculty, be permitted to pursue special courses, for proficiency in which, certificates may be granted ; but this permission will be given only to students of sufficient age, ability and diligence to insure their success.

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\* NOTE.—Of all candidates for the Bachelor of Arts degree *either* Greek *or* Latin will be required. Of all candidates for admission to the Engineering course only one language will be required.

Candidates may be admitted to advanced classes if found fitted in all the preliminary studies of the course.

Each candidate must forward, together with his application, a certificate of good moral character from his last teacher ; and students from other colleges must present certificates of honorable dismissal in good standing.

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## EXPENSES.

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THE usual charge for Tuition, Board, and Room Rent in Barclay Hall is five hundred dollars (\$500) a year.

A few students will be taken in larger rooms for five hundred and twenty-five dollars (\$525) a year, and a few in Founders' Hall, for four hundred dollars (\$400) a year.

NOTE.—The rent of rooms includes steam heat, electric light, necessary bed-room furniture, and care of rooms. Students will supply their study-room furniture, also towels and table napkins.

The charge for tuition is one hundred and fifty dollars (\$150) a year ; for tuition and mid-day meal, two hundred dollars (\$200) a year.

Books, stationery, and laundry work will, at the option of the student, be supplied by the college and charged on the half-yearly bills. Materials consumed and breakage in the laboratories are also charged.

The charge for Graduate Students for Board and Tuition is three hundred dollars (\$300) ; for Tuition alone, one hundred dollars (\$100).

Bills for Board and Tuition are payable one-half at the beginning and one-half at the middle of the college year.

## UNDERGRADUATE SCHOLARSHIPS.

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A FEW scholarships, varying in amount from \$100 to \$300, are at the disposal of the College.

These will be granted annually to properly qualified students who cannot afford to pay the full charges. In awarding the scholarships, both character and intellectual preparation are taken into account. Students should send, with their application, certificates of their moral character. The intellectual preparation is tested by examination. Blank forms on which the application must be written will be furnished by the President of the College. Candidates are advised to apply at an early date.

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## GRADUATE SCHOLARSHIPS.

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THERE are four Graduate Scholarships of sufficient value to cover the whole charge for Board and Room Rent. By the conditions of the donors, one of these will be given to a graduate of each of the following Colleges, viz: Haverford, Earlham, Penn, and Wilmington ; *provided*, that the student shall be recommended by the President of the College at which he was graduated as likely to profit by the instruction given at Haverford, and that he shall be satisfactory to the Faculty of Haverford College.

Should there not be satisfactory applications by Fourth month 1st, the scholarships may be otherwise disposed of.



## COURSES OF INSTRUCTION.

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There are three courses :—

1. *Course in Arts*, leading to the degree of *Bachelor of Arts*.
2. *Course in Science*, leading to the degree of *Bachelor of Science*.
3. *Course in Mechanical Engineering*, leading to the degree of *Bachelor of Science*.

The first two of these courses are combined in the following table.

Students must continue for two years the languages presented on admission. The degree of Bachelor of Arts will be given only to a student who takes either Latin or Greek.

## COURSE IN ARTS AND COURSE IN SCIENCE.

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### FRESHMAN YEAR.

1. *Scripture*. General outline of the history and literature of the Bible. One hour a week.
2. *English*.—A. S. Hill, *Foundations of Rhetoric*; H. G. Buehler, *Exercises in English*; English Literature; Themes; Declamations. Three hours a week.
3. *History*. Green's *History of the English People*. Two hours a week.
4. *Mathematics*; *Solid Geometry*; Hall and Knight's *Higher Algebra*; Jones's *Trigonometry*; Geometrical Conic Sections. Four hours a week.

NOTE—Students presenting *Solid Geometry* for admission will take a course in Elementary Mechanics.

5 and 6. Two of the following languages :

- a. *Greek*. Lysias, *Select Orations*; Herodotus, *Selections*; Homer, *Selections*; Translation at sight; Greek Composition. Four hours a week.
- b. *Latin*. Cicero, *Tusculan Disputations*, Bk. i.; Vergil, *Bucolics* and *Æneid*, Bk. viii; Livy, Bks. xxi, xxii; Translation at sight; Prose Composition. Four hours a week.

- c. *German*. Exercises in composition; Freytag, *Die Journalisten*; Schiller, *Wallenstein*; Lessing, *Minna von Barnhelm*; Selections from German Prose; Reading at sight; Private Reading of books assigned by the instructor. Four hours a week.
- d. *French*. Nineteenth Century: Daudet, Augier, Sandeau, Pailleuron, Lamartine, Hugo, DeMusset, Mérimée. Seventeenth Century: Bossuet, Bourdaloue, Massillon, Corneille, Racine, Molière. History of French Literature (XVII–XIX Centuries); Composition. Four hours a week.
- 7. *Physical Training*. Physiology and Hygiene—First Quarter; Gymnasium Work—Second and Third Quarters.

## SOPHOMORE YEAR.

- 1. *Scripture*. Greek or English New Testament. One hour a week.
  - 2. *English*.—Barrett Wendell, *English Composition*; Readings in English Literature; Lectures; Themes; Spoken Forensics. Two hours a week.
  - 3. *Mathematics*. Smith's *Analytical Geometry*. Four hours a week the first half-year.
  - 4 and 5. Two of the following languages:
    - a. *Greek*. Plato, *Apology* and *Crito*, or *Phaedo*; Æschylus, *Prometheus*; Euripides, *Alceste*; Translation at sight (Xenophon, *Memorabilia*); Exercises in writing Greek; Thucydides, *Selections*. Three hours a week.
    - b. *Latin*. Tacitus *Germania* and *Agricola*; Pliny, *Selected Letters*; Horace, *Odes* and *Epodes*; Translation at sight; Mackail's *Latin Literature*. Three hours a week.
    - c. *German*. Goethe, *Faust*, *Iphigenie*, and *Aus Meinem Leben*; Freytag, *Aus dem Staat Friedrichs des Grossen*; Private Reading; Lectures on German Literature. Three hours a week.
    - d. *French*. Molière, Hugo, Balzac. History of French Literature from the beginning to the Seventeenth Century. Three hours a week.
  - 6. *Physics*. Elementary Physics, and Laboratory Work. Four hours a week the first half-year.
  - 7. *Chemistry*. Elementary General Chemistry, Lectures and Laboratory Work. Four hours a week the second half-year.
- NOTE.—In all such cases the number of recitations or their equivalent in laboratory work is given—one hour of recitation being supposed equivalent to two and a half of laboratory.
- 8. The student will also elect one of the following the second half-year:
    - a. *Mathematics*. Calculus. Four hours a week,
    - b. *Elementary Biology*, Lectures, and Laboratory Work. Five hours a week.
  - 9. *Physical Training*. Gymnasium Work.

## JUNIOR YEAR.

1. *Scripture*. One hour a week.
2. *Political Science*. Political Economy : Economic Problems (Text Book, Discussions and Lectures). Two hours a week.
3. *Philosophy*. Logic and Psychology. Two hours a week.
4. *Themes*.
5. *Elective Studies* from the lists on pages 25-28, subject to the limitations in the following notes. Ten hours a week.

*Note 1.* All students shall have had before graduation at least one year (three hours) each of German and French.

*Note 2.* All candidates for the Bachelor of Arts degree shall take either Greek, Latin or Mathematics (three hours) in the Junior year.

*Note 3.* All candidates for the Bachelor of Science degree shall take two of the following (each three hours) in the Junior year : Mathematics, Chemistry, Physics, Geology and Astronomy, Biology.

## SENIOR YEAR.

1. *Scripture*. One hour a week.
2. *Ethics*. Two hours a week.
3. *Themes*.
4. *Elective Studies* from the lists on pages 25-28. Twelve hours a week.

## SYNOPSIS OF ABOVE COURSES.

## FRESHMAN.

Scripture,.....	1 hour.
English,.....	3 hours.
History,.....	2 "
Mathematics,.....	4 "
Two of the following,.....	8 "
Greek,.....	4 hours.
Latin,.....	4 "
German,.....	4 "
French,.....	4 "
Physical Training.	

## JUNIOR.

Scripture,.....	1 hour.
Political Science, ..	2 hours.
Philosophy,.....	2 "
Electives,.....	10 "
Themes.	

## SOPHOMORE.

Scripture,.....	1 hour.
English,.....	2 hours.
Mathematics, 1st half...	} 4 hours.
Mathematics 4 } 2nd half or Biology }	
Physics, 1st half,.....	} 4 hours.
Chemistry, 2nd half,.....	
Two of the following,.....	6 hours.
Greek,.....	3 hours.
Latin,.....	3 "
German,.....	3 "
French,.....	3 "
Physical Training.	

## SENIOR.

Scripture,.....	1 hour.
Ethics,.....	2 hours.
Electives,.....	12 "
Themes.	

## MECHANICAL ENGINEERING COURSE.

## FRESHMAN YEAR.

Mathematics,.....	4 hours.
Shop Work and Drawing, .....	10=4 “
French or German,.....	4 “
English and History,..	4 “

## SOPHOMORE YEAR.

Mathematics,.....	4 hours.
Shop Work and Drawing, .....	10=4 “
Physics and Chemistry, .....	4 “
French or German,.....	3 “
English, .....	2 “

## JUNIOR YEAR.

Applied Mathematics...	3 hours.
Shop Work and Drawing, .....	10=4 “
Materials of Engineering, .....	2 “
Chemistry, .....	5=2 “
Descriptive Geometry, etc., .....	2 “
Electives, .....	2 “

## SENIOR YEAR.

Ethics, .....	2 hours.
Mechanics and Thermodynamics, .....	3 “
Mechanical Laboratory, .....	10=4 “
Theory of Steam Engine, Machine Design, .....	3 “
Electives, .....	3 “

For Electrical Students the course will be modified during the last two years so as to include a course in Theoretical and Practical Electricity.

Scripture and Themes are required throughout, and Physical Training through two years.

## PREPARATORY MEDICAL COURSE.

This course is designed for students who are candidates for the degree of A. B. or S. B. and who are looking forward to the study of medicine. It is intended that the studies included in it shall be taken as electives principally during the Junior and Senior years. Students satisfactorily completing this course will receive certificates which, together with their diplomas, will admit them without examination to the second year of the Medical School of the University of Pennsylvania or the Jefferson Medical School of Philadelphia.

The studies included in this course, together with the whole number of hours in the lecture-room and laboratory necessary to be devoted to each, are as follows :

General Biology, .....	96 hours.	Histology, .....	72 hours.
Zoology, .....	96 “	Physiology, .....	48 “
Botany, .....	96 “	Physics, .....	72 “
Mammalian Anatomy, .....	288 “	Chemistry, .....	216 “
Embryology, .....	72 “		

## HAVERFORD COLLEGE.

Students not candidates for a degree may take the above studies in two years. Such students may not be admitted to the second year of the Medical Schools.

### ELECTIVE COURSES.

Seniors and Juniors will elect from the following list, with the approbation of the Faculty, courses sufficient to make up the required number of hours.

#### GREEK.

- I. Sophocles, *Antigone*, *Œdipus Tyrannus*; Euripides, *Medea*; Aristophanes, *Frogs*. [Prof. Gifford. \*3.]
  - II. Plato, *Gorgias*, and *Selections*; Demosthenes, *On the Crown*. [Prof. Gifford. 3.]
  - III. Outline of the History of Greek Literature; *Selected Readings*, Lectures. [Prof. Gifford. 3.]
- Greek Archæology, *Topics, Lectures*. [Prof. Gifford. 3.]
- Only two of the above courses are given in the same year.

#### LATIN.

- I. Selections from Lucretius and Catullus; Vergil, *Georgics* i, ii, iv and *Æneid*, vi; Tacitus *Annals*, Bks. i-vi. Translation at sight. [Dr. Mustard. 3.]
- II. The principal Satires of Horace and Juvenal; Terence, *Adelphæ*, and Plautus, *Mænæchmi*; Cicero, *De Officiis*. Translation at sight. [Dr. Mustard. 3.]
- III. Advanced Latin Composition. [Dr. Mustard. 1.]

#### ENGLISH.

- I. ANGLO-SAXON.—Bright, *Anglo-Saxon Reader*; *Béowulf*; Lectures. [Dr. Gummere. 2.]
- II. ENGLISH LITERATURE IN THE FOURTEENTH CENTURY.—Chaucer's *Canterbury Tales*. Lectures. [Dr. Gummere. 2.]
- III. SHAKSPERE AND MILTON; Private Readings; Lectures on Elizabethan Poetry. [Dr. Gummere. 3.]
- IV. ENGLISH LITERATURE OF THE EIGHTEENTH CENTURY.—Selections from Representative Authors; Lectures; Private Readings. [Dr. Gummere. 2.]
- V. ENGLISH LITERATURE OF THE NINETEENTH CENTURY.—Selections from Representative Authors; Lectures; Private Readings. [A. C. L. Brown. 1.]

\* These figures represent the number of hours per week. In Laboratory Work, etc., two and a half hours count as one.

VI. ADVANCED ENGLISH COMPOSITION AND ORAL DISCUSSION. Daily Themes. Forensics preceded by Briefs. [A. C. L. Brown. 2.]

Only those who have attained good rank in Freshmen and Sophomore English will be admitted to this Class. Members of it will be exempted from regular theme work.

#### GERMAN.

I. MIDDLE-HIGH-GERMAN.—Paul, *Mittelhochdeutsche Grammatik*. Selections from the Poems of Walther von der Vogelweide. *Das Nibelungenlied*. [Dr. Gummere. 2.]

II. GÖTTE, *Faust*, *Iphigenie*, and *Aus Meinem Leben*; Freytag, *Aus dem Staat Friedrichs des Grossen*; Private Readings; Lectures in German Literature. [Dr. Gummere. 3.]

III. Exercises in Composition; Freytag, *Die Journalisten*; Schiller, *Wallenstein*; Lessing, *Minna von Barnhelm*; Selections from German Prose; Reading at sight; Private reading of books assigned by the instructor. [Dr. Gummere. 4.]

IV. Joynes-Meissner, *German Grammar*; Harris, *German Reader*; Storm, *Immensee*, *Geschichten aus der Tonne*; Translations at sight of ordinary prose; Exercises in Composition. [A. C. L. Brown. 3.]

#### FRENCH.

I. Molière, Hugo, Balzac. History of French Literature from the Beginning to the Seventeenth Century. [Prof. Ladd. 3.]

II. Nineteenth Century: Daudet, Augier, Sandeau, Pailleron, Lamartine, Hugo, De Musset, Mérimée. Seventeenth Century: Bossuet, Bourdaloue, Massillon, Corneille, Racine, Molière. History of French Literature (XVII-XIX Centuries) Composition. [Prof. Ladd. 4.]

III. Grandgent's *French Grammar*; Erckmann-Chatriaux's *Madame Thérèse*; Labiche's *Le Voyage de M. Perrichon*; Sand's *La Mare au Diable*; Coppée's *Le Luthier de Crémone*. [Prof. Ladd. 3.]

#### PURE MATHEMATICS.

I. Analytical Geometry of three Dimensions. Calculus.

[Prof. Morley. 3.]

This course is required of Engineering Students in their Junior year; and it is the proper course, in general, for all students who elect Pure Mathematics, in their Junior Year.

II. Modern Methods in Analytic Geometry. [Prof. Morley. 3.]

III. Introduction to the Theory of Functions. The Trigonometric and Elliptic Functions. [Prof. Morley. 3.]

IV. Fourier Series and Spherical Harmonics. [Prof. Morley. 3.]

#### APPLIED MATHEMATICS.

I. Introduction to Analytical Mechanics, including Attraction and Potential. [Prof. Brown. 3.]

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|---|-------------------|
| II. Differential Equations (Forsyth).   | [Prof. Brown. 3.] |
| III. Elementary Rigid Dynamics (Routh). | [Prof. Brown. 3.] |

## HISTORY.

- I. Political and Constitutional History of England. [Dr. Breckenridge. 3.]
  - II. American Colonial History to 1783; Europe and America during the Eighteenth Century. [Prof. Thomas. 3.]
  - III. Constitutional and Political History of the United States, 1783 to 1865. [Prof. Thomas. 3.]
- Courses II. and III. are intended to be given in alternate years.

## PHILOSOPHY.

- History of Philosophy. [R. M. Jones. 2.]

## POLITICAL SCIENCE.

- I. Economics; Recent Theory, Methods and Controversies: (Discussions, Lectures and Reports). Open to students who have had some training in the Principles of Political Economy. [Dr. Breckenridge. 3.]
- II. English Economic History. [Dr. Breckenridge. 1.]

ASTRONOMY.

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|--|---------------------|
| I. Practical Astronomy, with Observatory Practice. | [W. H. Collins. 2.] |
| II. Descriptive Astronomy. (Half-year.)            | [W. H. Collins. 2.] |

## CHEMISTRY.

- I. General Chemistry ; Lectures and Laboratory Work.  
[Dr. Hall. 2 or more.]
- II. Analytical Chemistry ; Lectures and Laboratory Work.  
[Dr. Hall. 2 or more.]
- III. Organic Chemistry ; Lectures and Laboratory Work.  
[Dr. Hall. 2.]

## BIOLOGY.

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|------|---|-----------------|
| I.   | Invertebrate Morphology ; Lectures and Laboratory Work. | [Dr. Pratt. 2.] |
| II.  | Vertebrate Morphology ; Lectures and Laboratory Work.   | [Dr. Pratt. 3.] |
| III. | Embryology ; Lectures and Laboratory Work.              | [Dr. Pratt. 3.] |

Courses I and II each occupies a year. Course III is given as part of Course II and cannot be taken apart from it. Course II must be preceded

by Course I. Course I must be preceded by a course in Elementary Biology. Seniors electing Biology will be given any advanced courses they may elect, including special investigation.

IV. Human Anatomy (Preparatory Medical.) [J. A. Babbitt. 2.]

V. Advanced Physiology. [J. A. Babbitt. 1.]

#### GEOLOGY.

Elementary Geology ; Recitations and Field Work. (Half-year.)  
[Dr. Pratt. 3.]

#### ENGINEERING.

I. Materials of Construction ; Theory of the Steam Engine.  
[Prof. Edwards. 2.]

II. Descriptive Geometry ; Elements of Mechanism.  
[Profs. Edwards and Brown. 2.]

Courses I and II will be given in alternate years.

III. Machine Design and Draughting. (Open only to Engineering Students.)  
[Prof. Edwards. 2.]

#### PHYSICS.

I. Electricity and Magnetism ; S. P. Thompson's Lessons and Emtage's Electricity and Magnetism ; Lectures, Recitations, and Laboratory Work.  
[Prof. Edwards. 3.]

II. Electrical Engineering ; Slingo and Brooker's Electrical Engineering and S. P. Thompson's Dynamo-Electric Machinery, with Laboratory Work.  
[Prof. Edwards. 2.]

III. Theory of Heat ; Stewart's Heat and Clausius' Mechanical Theory of Heat, with Laboratory Work.  
[Prof. Edwards. 2.]



## PUBLIC LECTURES, 1895-96.

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### HAVERFORD LIBRARY LECTURES.

DR. LYMAN ABBOTT, of Brooklyn :

1. Christ and Socialism.
2. Christ's Method of Settling Controversy.
3. Christ on the Treatment of Criminals.

DR. GEORGE ADAM SMITH, of Glasgow :

Hebrew Poetry. (Two Lectures.)

### OTHER LECTURES.

DR. ALBERT S. BOLLES :

William Penn and the Early History of Pennsylvania. (Two Lectures.)

THEODORE C. KNAUFF :

The Silver Question.

ROBERT C. OGDEN :

Public Speaking.

HON. CHAUNCEY M. DEPEW :

Patriotism and Jingoism.

CLINTON ROGERS WOODRUFF :

Municipal Reform.

EDWARD PICK :

Memory Culture.

## GRADING OF STUDENTS.

STUDENTS are divided, according to their grades, into five sections, A, B, C, D, E. Each student is notified of the section to which he has been assigned, but the grades are not published. Section E is composed of those who cannot be advanced to the next higher class, or receive their Bachelor's degree. Daily recitations, hour examinations, and final examinations are all used as elements in determining the standing of a student.

## ADVANCED DEGREES.

Graduates of three years' standing may take the degree of MASTER OF ARTS or of MASTER OF SCIENCE, by passing an examination on some literary or scientific course of study which shall receive the approbation of the Faculty.

Candidates who are examined may also be required to hand in dissertations on topics in the field of study which they have specially investigated.

*Resident* Graduates, who have completed an adequate course of study, may be admitted to an examination for a second degree at the expiration of one or two years.

Graduates of other colleges and scientific schools of good standing, who present satisfactory evidence of character and qualifications, will be admitted as candidates for the degree of Master of Arts. One year's residence at Haverford College will be required of all such students.

Notice of application for examination must be given to the President two months before Commencement. The examination for non-residents will be held during the last week in the Fifth month, and in no case at a later date. The fee for the Diploma of the Second Degree is Twenty Dollars, to be paid in all cases before the 1st of the Sixth month.

Adequate courses of study for the Master's degree may be arranged on application to the President.

## ALUMNI PRIZE FOR COMPOSITION AND ORATORY.

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The Association of the Alumni, in the year 1875, established an ANNUAL PRIZE, either of a Gold Medal or of an equivalent value in books with a Bronze Medal, for excellence in Composition and Oratory.

The following are the rules governing the competition :

I. The Alumni Medal is offered yearly to the competition of the members of the Senior and Junior Classes, as a prize for the best delivered oration prepared therefor.

II. Three or five Judges shall be appointed from year to year by the Alumni Committee, who shall hear publicly, in Alumni Hall, all competitors who may be qualified to appear.

III. No oration shall occupy in delivery more than fifteen minutes.

IV. In making their award, while due weight is given to the literary merits of the oration, the Judges are to consider the prizes as offered to encourage more especially the attainment of excellence in elocution.

V. The Judges shall have the right to withhold the prize if the elocution and the literary merits of the oration fall below a suitable standard of excellence.

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## THE EVERETT SOCIETY (SILVER) MEDAL.

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The medal is offered by the founder to the competition of the members of the two lower classes, in loving memory of the old Everett Society, which no longer preserves its separate existence.

Orations shall not exceed ten minutes in delivery, shall be prepared considerably in advance and perfectly committed to memory. It is desired in addition, that a record should be kept of each year's contest. The precise rules governing each contest will be announced some time in advance of preparation for such contest.

## PRIZES FOR SYSTEMATIC READING.

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Two prizes, of \$60 and \$40 respectively, will be given to those members of the Junior Class who, having creditably pursued their regular studies and paid proper attention to physical culture, shall have carried on the most profitable course of reading of standard authors during the Sophomore and Junior years.

The direction of the work and the decision as to the award of the prizes shall be in the hands of a committee consisting of the President, the Librarian and the Professor of English.

Either or both of these prizes may be omitted if, in the judgment of the committee, the work does not justify the award.

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## THE CLASS OF 1870 PRIZE IN ENGLISH COMPOSITION.

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This prize, of the value of \$50, is offered under the following conditions: The competitors shall be members of either the Senior or Junior Class. The papers should not exceed the limits of an ordinary short essay, and should excel as much in harmonious proportion of material as in particular points of style. The standard of merit is excellence in composition, with chief regard to subject-matter, originality, and a clear, forcible, and correct style. Unless definite subjects should be announced, the writers are at liberty to choose their own; but such a choice must be submitted to the approval of the President of the College. All essays must be submitted, by Fifth month 1st, to a committee to be appointed by the Class of 1870. The Prize is to be announced on the night of the Alumni oration and at Commencement, and is to be recorded in the College Catalogue.

## HONORS.

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For the purposes of honors, studies are divided as follows :

- I. Ancient Languages and Literature.
- II. Modern Languages and Literature.
- III. Mathematics, Physics, and Astronomy.
- IV. Chemistry and Biology.
- V. History, Philosophy, and Political Science.
- VI. Latin and French.
- VII. Chemistry and Physics.

Candidates for Honors shall elect from one group at least five hours per week during the Junior year, and eight hours per week during the Senior year, and shall make their announcements of candidacy at the beginning of the Junior year.

*Highest Honors* and *Honors* may be given, dependent on the judgment of the professors immediately interested. They will base their decision on special examinations, or the character of the daily work.

Honors shall be announced at Commencement and in the succeeding catalogue.

## LIBRARY.

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LIBRARIAN, Professor Allen C. Thomas ; ASSISTANT, Homer J. Webster.

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The number of bound volumes in the Library of Haverford College is 32,537. Numerous American and European periodicals, scientific and literary, are taken by the Library.

About \$1,800 yearly are expended for the purchase of books and periodicals.

The Library is open as a reading-room from 9. A. M. to 6 P. M., during which time the volumes in the alcoves may be freely con-

sulted. The Librarian devotes stated hours each week to the purpose of assisting and directing students in the reading, and in the intelligent use of books of reference and of authorities. He also arranges courses of reading.

## CHEMICAL LABORATORY.

DIRECTOR, Dr. Lyman B. Hall ; ASSISTANT, George M. Palmer.

The Laboratory Work comprises elementary experiments in General Chemistry ; an extended study of the more important elements and their compounds ; qualitative and quantitative analysis ; the preparation of pure compounds ; and experimental work illustrating chemical laws and theories.

Students may substitute for the last two years of the Scientific Course a special course in Chemistry, embracing both theory and laboratory work.

Opportunity is given for elementary or advanced special work, with ample facilities for its prosecution.

## PHYSICAL LABORATORY.

DIRECTOR, Prof. Levi T. Edwards ; ASSISTANT, Edward Thomas.

The Physical Laboratory occupies five rooms, and is well equipped for work in the different departments of Physics. The apparatus has been selected with especial reference to quantitative rather than qualitative work, and includes in every department exact standards. The department of electricity has been exceptionally well equipped.

The students are instructed in the accurate measurement of

various physical quantities in mechanics, heat, light, and electricity. They are also assigned a certain amount of qualitative work leading up to a more intimate knowledge of the properties of matter.

The work of the more advanced students is supplemented by reading in the foreign and domestic scientific journals which are accessible in the Library.

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## BIOLOGICAL LABORATORY.

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DIRECTOR, Dr. H. S. Pratt ; ASSISTANT, William J. Burns.

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The Biological Laboratory is well equipped with reagents and with microscopes and all the other necessary apparatus and appliances. It contains also about two hundred recent biological works and zoölogical and botanical charts.

The work consists of courses in General Zoölogy and Botany, followed by thorough courses in invertebrate and vertebrate morphology, histology and embryology.

Students who have completed the courses prescribed may elect advanced work or carry on special investigations.

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## MUSEUM.

---

CURATOR, Dr. H. S. Pratt.

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The Museum contains a large collection of native and foreign birds and birds' eggs ; a conchological collection ; a collection of fossils ; and a large collection of rocks and minerals. It contains also an herbarium in which about 3000 species are represented.

## MECHANICAL LABORATORY.

DIRECTOR, Prof. Levi T. Edwards ; ASSISTANT, Oscar M. Chase.

The Engineering Department occupies a new stone building, three stories high, erected during the summer of 1896. The entire equipment is new and of the best quality. The Wood-working Department affords accommodation for fourteen students at one time. The benches are provided with quick-action vises and a complete set of carpenter's tools for each student. This shop contains a 36" band saw and a wood lathe. The Iron-working Department contains a 24" x 12' Blaisdell engine-lathe and two smaller lathes of the same make ; a 24" x 24" x 6' planer ; a Gould & Eberhardt 16" shaper ; two drill-presses ; several vises and complete sets of machinists tools for bench work. Two steam-engines, one of which is a tandem compound directly coupled to a 60 K. W. dynamo, together with indicators and electrical measuring instruments, afford good opportunity for engine and dynamo testing. The third story of the building is devoted to drawing, and is a commodious and well-lighted room.

The instruction begins with a series of graded exercises, which teach accuracy in the use of tools and illustrate the principles of machine construction. This is followed by practice in the construction of parts of machinery and the building of complete machines.

The students, under the care of the Director, are taken from time to time to visit machine-shops and engineering constructions in Philadelphia and vicinity.



## ASTRONOMICAL OBSERVATORY.

---

DIRECTOR, William H. Collins.

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THE HAVERFORD OBSERVATORY affords students the means of becoming familiar with the use of astronomical instruments, and of acquiring, from actual observation, a practical acquaintance with Astronomy.

It contains two Equatorial Telescopes, one, by Clark, having an object-glass 10 inches in diameter, and one with an object-glass of  $8\frac{1}{4}$  inches, with filar micrometer and eye-pieces; a polarizing eye-piece; a Newtonian Reflector, with a silver-on-glass speculum of  $8\frac{1}{4}$  inches diameter; a Prism Spectroscope; a Meridian Transit Circle having a Telescope of  $3\frac{3}{4}$  inches aperture, with a circle at each end of the axis 26 inches in diameter; a Zenith Instrument of  $1\frac{3}{4}$  inches aperture, with a micrometer; two Sidereal Clocks, one with mercurial compensation, the other used to connect with a Bond's Magnetic Chronograph.

The latitude of the Observatory is  $40^{\circ} 0' 40''$  N.; its longitude, 6 minutes 59.4 seconds east from Washington.

A Special Course in Astronomy is offered to amateurs and teachers. The requisites for the course and the fees charged will depend on the work which the applicant desires to perform.

## THE GYMNASIUM.

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DIRECTOR, James A. Babbitt ; ASSISTANT, F. N. Maxfield.

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THE GYMNASIUM has been refitted with several improved gymnastic appliances, and now includes in its equipment rowing, sculling, and wrist machines, chest weights, striking-bag and drum, and the necessary apparatus for the gymnastic game of basket-ball.

The Director gives systematic instruction, based upon careful physical examination. An extensive addition for this purpose has been made in the anthropometric equipment.

Required work begins Twelfth month 1st and ends Fourth month 1st, and occupies four periods each week.

It is arranged in two courses, each occupying one winter.

Students entering the Freshman class are required to take the two courses, one each year ; and divisions for advanced work are formed of those giving evidence of previous systematic gymnasium drill.

Students entering the Sophomore class are required to complete one course with a similar privilege of advanced standing.

While the work is required of the two lower classes only, it is elective for the upper classes, and it is expected that the majority of their members will take advantage of the advanced courses arranged.

## SOCIETIES.

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THE LOGANIAN SOCIETY was established by the Officers and Students in 1834.

THE EVERETT-ATHENÆUM is a literary society of the students.

A flourishing branch of the YOUNG MEN'S CHRISTIAN ASSOCIATION exists at the College.

## DEGREES, PRIZES AND HONORS GRANTED IN 1896.

At the Commencement in 1896, Degrees were granted after examination to the following graduates :

### BACHELOR OF ARTS.

DOUGLAS HOWE ADAMS,	THOMAS HARVEY HAINES,
GEORGE RAYMOND ALLEN,	JOHN ASHBY LESTER,
MILTON CLAUSER,	PAUL D. I. MAIER,
ARTHUR FERNANDEZ COCA,	JOSEPH HENRY SCATTERGOOD,
GEORGE HENRY DEUELL,	LEVI HOLLINGSWORTH WOOD.

### BACHELOR OF SCIENCE.

* WILLIAM KITE ALSOP,	CHARLES RUSSELL HINCHMAN,
† WILLIAM HENRY BETTLE,	JOHN QUINCY HUNSICKER, JR.,
SAMUEL KRIEBEL BRECHT,	† SAMUEL MIDDLETON,
MARK BROOKE,	CHARLES DICKENS NASON,
ALBERT DEMPSEY HARTLEY,	MARSHALL WARREN WAY,
HOMER JEPHTHA WEBSTER.	

### MASTER OF ARTS.

JAMES ADDISON BABBITT, Ana- tomy.	HORACE THORNBURG OWEN, His- tory.
AUGUSTINE WILBERFORCE BLAIR, Chemistry.	LUTHER MILTON HUNT, History.
ARTHUR MATTHEW CHARLES, En- glish.	CLEM. FINNEY PATTERSON, Elec- tricity.
	ALLEN CURRY THOMAS, History.

### DOCTOR OF PHILOSOPHY.

WILLIAM W. HASTINGS, Semitic Languages.

---

\* In Chemistry.

† In Mechanical Engineering.

## PRIZES.

The Haverford Fellowship for 1896-7 was awarded to

JOHN ASHBY LESTER.

The Alumni Prize in Composition and Oratory (\$50.00) to

MILTON CLAUSER.

The Class of 1870 Prize in English Composition (\$50.00) to

GEORGE HENRY DEUELL.

The Prizes for Systematic Reading were awarded to

First Prize (\$60.00),.....CHARLES DICKENS NASON.

Second Prize (\$40.00),.....EDWARD THOMAS.

## HONORS.

## GENERAL HONORS.

DOUGLAS HOWE ADAMS,

JOHN ASHBY LESTER,

GEORGE HENRY DEUELL,

JOSEPH HENRY SCATTERGOOD.

Highest Honors in Economics and Political Science, ..GEO. HENRY DEUELL.

Honors in Latin and Greek,.....DOUGLAS HOWE ADAMS.

Honors in Modern Languages,.....LEVI HOLLINGSWORTH WOOD.

Honors in Mathematics.....JOSEPH HENRY SCATTERGOOD.

Honors in Chemistry,.....

WILLIAM KITE ALSOP.  
THOMAS HARVEY HAINES.

# LIST OF GRADUATES AND HONORARY DEGREES.

(Degrees conferred by other institutions are indicated by *italics*.)

THE ONLY DEGREE GRANTED ON GRADUATION BEFORE 1877 WAS THAT  
OF BACHELOR OF ARTS.

## \* GRADUATES.

1836

\*Thomas F. Cock, *M.D., J.L.D.*, \*1896  
Joseph Walton.

1837

\*William C. Longstreth, \*1881  
\*David C. Murray, \*1885  
Lindley Murray  
\*Benjamin V. Marsh, \*1882  
\*Joseph L. Pennock, \*1870  
Robert B. Parsons  
\*Charles L. Sharpless, \*1882  
\*Lloyd P. Smith, A.M., \*1886  
\*B. Wyatt Wistar, \*1869

1838

\*James V. Emlen, *M. D.*, \*1880  
\*John Elliott, \*1893

1839

\*Frederic Collins, \*1892  
Thomas P. Cope  
Henry Hartshorne, *M. D.*, A. M.  
*L.L.D.*  
\*Nereus Mendenhall, *M. D.*, \*1893  
Richard Randolph, Jr., *M. D.*  
\*Charles Taber, \*1887

1840

\*Joseph Howell, \*1889  
Anthony M. Kimber  
\*Henry H. G. Sharpless, \*1870  
\*John R. Winslow, *M. D.*, \*1866

1841

\*Richard H. Lawrence, \*1847  
\*James P. Perot, \*1872  
\*Elias A. White, \*1866

1842

Robert Bowne  
Richard Cadbury  
\*William S. Hilles, \*1876  
\*Thomas Kimber, Jr., *L.T.D.* \*1890  
\*James J. Levick, *M. D.*, A. M.,  
\*1893  
Edmund Rodman, A. M.  
Thomas R. Rodman, *A. B.*  
Benjamin R. Smith  
Augustus Taber  
\*Caleb Winslow, *M.D.*, \*1895

1843

Robert B. Howland  
Francis White  
\*William D. Stroud, *M. D.*, \*1883

1844

Evan T. Ellis  
\*Robert B. Haines, \*1895  
Isaac Hartshorne

1845

\*Edmund A. Crenshaw, \*1894  
\*Robert Pearsall, \*1849

1849

Albert K. Smiley, A. M.  
Alfred H. Smiley, A. M.

1851

Joseph L. Bailey  
Philip C. Garrett  
Thomas J. Levick  
Franklin E. Paige, A. M.

Zaccheus Test, *M. D.*, A. M.  
James C. Thomas, *M. D.*, A. M.  
Richard Wood

1852

\*Dougan Clark, *M. D.*, \*1896  
Lewis N. Hopkins  
William L. Kinsman  
William E. Newhall  
\*James Whitall, \*1896

1853

William B. Morgan, A. M.  
William H. Pancoast, *M. D.*, A. M.

1854

Frederick Arthur, Jr.  
John W. Cadbury  
John B. Garrett  
David Scull, Jr.

1855

\*Samuel Bettie, \*1859  
John R. Hubbard, A. M.

1856

Bartholomew W. Beesley  
Joel Cadbury, Jr.  
Jonathan J. Comfort, *M. D.*  
\*James M. Walton, \*1874  
Edward R. Wood, A. M.

1857

Jesse S. Cheyney, A. M.  
\*Cyrus Mendenhall, \*1858  
Stephen Wood

1858

\*Thomas H. Burgess, \*1893  
Thomas Clark  
Daniel W. Hunt  
\*Samuel T. Satterthwaite, \*1865  
William G. Tyler  
Thomas Wistar, A. M., *M. D.*  
Ellis H. Yarnall, *L.L.B.*

1859

\*Richard W. Chase, \*1865  
James R. Magee  
\*Richard C. Paxson, \*1864  
\*Edward Rhoads, *M. D.*, \*1871  
Edward C. Sampson

\*George Sampson, \*1872  
Abram Sharples, *M. D.*  
Benjamin H. Smith

1860

\*Lindley M. Clark, \*1861  
\*William B. Corbit, *M. D.*, \*1882  
\*William M. Corlies, \*1881  
Cyrus Lindley  
Theodore H. Morris  
Frederick W. Morris  
Richard Pancoast  
\*John W. Pinkham, *M. D.*, \*1894  
Francis Richardson  
Clement L. Smith, A. M., *L.L.D.*  
James Tyson, *M. D.*, A. M.  
Silas A. Underhill, *L.L.B.*

1861

Edward Bettie, Jr.  
\*Henry Bettie, \*1886  
\*Charles Bettie, \*1883  
William B. Broomall  
Charles H. Jones  
\*Thomas W. Lamb, A. M., *M. D.*,  
\*1878  
William N. Potts  
John H. Stuart, A. M., *M. D.*  
John C. Thomas

1862

Henry T. Coates, A. M.  
\*Samuel A. Hadley, \*1864  
Horace G. Lippincott  
George B. Mellor  
Horace Williams, *M. D.*  
\*Isaac F. Wood, \*1895

1863

Thomas J. Battey, A. M.  
\*George M. Coates, Jr., A. M., \*1894  
William M. Coates  
\*Richard T. Jones, \*1869  
William H. Morris  
Joseph G. Pinkham, *M. D.*, A. M.

1864

\*Franklin Angell, A. M., \*1882  
\*William Ashbridge, *M. D.*, \*1884  
Edward H. Coates  
Howard M. Cooper, A. M.  
Albin Garrett

Morris Longstreth, *A. B. M. D.*,  
A. M.

Albert Pancoast

Charles Roberts

\*E. Pope Sampson, \* 1893

\*Edward L. Scull, \* 1884

\*Randolph Wood, \* 1876

1865

John R. Bringhurst

\*Edward T. Brown, \* 1892

James A. Chase

Joseph M. Downing

Arthur Haviland

\*David H. Nichols, \* 1865

Henry W. Sharpless

\*George Smith, Jr., \* 1872

Robert B. Taber, A. M.

Allen C. Thomas, A. M.

Benjamin A. Vail

Caleb Cresson Wistar

1866

A. Marshall Elliott, A. M.

Benjamin E. Valentine, *L.L. B.*

1867

\*John Ashbridge, \* 1881

George Ashbridge, A. M., *L.L. B.*

William P. Clark, A. M., *L.L. B.*

Samuel C. Collins, A. M.

Nathaniel B. Crenshaw

Charles H. Darlington, A. M.

\*William T. Dorsey, *M. D.*, \* 1870

B. Franklin Eshleman

Richard M. Jones, A. M., *L.L. D.*

\*Charles W. Sharpless, \* 1889

Walter Wood

1868

Edward H. Cook

\*Alexis T. Cope, \* 1883

Benjamin C. Satterthwaite

Louis Starr, *M. D.*

S. Finley Tomlinson

Joseph H. Wills, A. M., *M. D.*

1869

Johns H. Congdon

Henry Cope, A. M.

Ludovic Estes, *A. M.*, *Ph. D.*

\*Henry Eval, A. M., \* 1877

\*William B. Kaighn, \* 1876

Pendleton King, A. M.

William H. Randolph

Edward B. Taylor, *M. C. E.*

William S. Taylor

James G. Whitlock

Walter Wood

Henry Wood, *Ph. D.*

1870

J. Stuart Brown

John E. Carey

Alford G. Coale

Howard Comfort

T. Allen Hilles

William H. Hubbard, *M. D.*

\*Thomas K. Longstreth, A. M.,

\* 1883

Oliver G. Owen, A. M.

Charles E. Pratt, A. M.

David F. Rose

\*John D. Steele, \* 1886

Charles Wood, A. M.

Stuart Wood, *Ph. D.*

1871

\*Henry G. Brown

William P. Evans, \* 1893

John S. Garrigues

Reuben Haines, A. M.

William H. Haines

Joseph Hartshorne

Jesse F. Hoskins

Walter T. Moore

Ellis B. Reeves

Alfred R. Roberts, *C. E.*

Charles S. Taylor

Edward D. Thurston

Randolph Winslow, *M. D.*, A. M.

1872

Richard Ashbridge, *M. D.*

Richard T. Cadbury, *A.B.*, *A.M.*

James Carey, Jr., *L.L. B.*

Thomas S. Downing, Jr.

Walter Erben

Thomas Rowland Estes

John E. Forsythe

William H. Gibbons, A. M.

Francis B. Gummere, *A. B.*, *A.*

*M. Ph. D.*

Caspar William Haines, A. M.,

*C. E.*

Abram Francis Huston

\*Marmaduke Cope Kimber, A. M., \*

1878

William M. Longstreth

Richard H. Thomas, *M. D.*

1873

James C. Comfort  
 Thomas P. Cope, Jr.  
 George W. Emien  
 Joseph M. Fox  
 Henry C. Haines  
 Benjamin H. Lowry, A. M.  
 Alden Sampson, A. M., *A. B.*, *A. M.*  
 \*Julius L. Tomlinson, A. M., \* 1890

1874

Edward P. Allison, A. M.  
 John G. Bullock  
 James Emlen  
 Charles R. Hartshorn, *LL. B.*  
 Samuel E. Hilles  
 John B. Jones  
 \*Mahlon Kirkbride\*, 1889  
 Theophilus P. Price  
 James B. Thompson  
 Joseph Trotter

1875

Edward K. Bispham  
 Alonzo Brown, A. M.  
 J. Franklin Davis, A. M.  
 Charles E. Haines  
 William Hunt, Jr.  
 Charles L. Huston  
 Harold P. Newlin  
 Walter W. Pharo  
 Charles E. Tebbetts  
 Miles White, Jr.

1876

Francis G. Allinson, A. M., *Ph. D.*  
 David S. Bispham  
 Reuben Colton  
 Henry W. Dudley  
 Seth K. Gifford, A. M.  
 L. Lyndon Hobbs, A. M.  
 Richard H. Holme  
 \*Thomas William Kimber\*, 1885  
 Charles A. Longstreth  
 J. Whitall Nicholson  
 Percival Roberts, Jr.  
 Frank H. Taylor  
 Howard G. Taylor  
 \*Lewis A. Taylor\*, 1881

1877

A. B.

Isaac W. Anderson  
 Frederic L. Baily

Isaac Forsythe  
 James D. Krider  
 George G. Mercer, *LL.M.*, *J. C. D.*  
 Wilson Townsend

S. B.

William F. Smith

1878

A. B.

Henry Baily, *A. B.*, *A. M.*  
 Albert L. Baily  
 Francis K. Carey, *LL. B.*, A. M.  
 Edward T. Comfort  
 Charles S. Crosman, *A. B.*, *LL. B.*  
 Samuel Hill, *A. B.*  
 Lindley M. H. Reynolds  
 Daniel Smiley, Jr.  
 Henry L. Taylor, A. M., *M. D.*  
 John M. W. Thomas  
 George W. White

S. B.

Jonathan Eldridge  
 Edward Forsythe  
 Cyrus P. Frazier, *A. B.*  
 Robert B. Haines, Jr.,  
 Henry N. Stokes, *Ph. D.*

1879

A. B.

Samuel Bispham, Jr.  
 \*Edward Gibbons\*, 1891  
 John H. Gifford, *M. D.*  
 Francis Henderson, *LL. B.*  
 William C. Lowry  
 John B. Newkirk  
 John E. Sheppard, Jr., *M. D.*

1880

A. B.

Charles F. Brédé, A. M.  
 Charles E. Cox, *A. M.*  
 Josiah P. Edwards  
 James L. Lynch  
 Samuel Mason, Jr.  
 William F. Perry  
 Joseph Rhoads, Jr., A. M.

S. B.

William Bishop  
 Alexander P. Corbit  
 Charles E. Gause, Jr.  
 Edward M. Jones



1881

A. B.

William A. Blair, *A. M.*  
 A. Morris Carey  
 Levi T. Edwards, *A. M.*  
 Edward Y. Hartshorne  
 Isaac T. Johnson, *A. M.*  
 Edwin O. Kennard  
 Jesse H. Moore  
 William E. Page  
 Walter F. Price, *A. M.*, *A. M.*  
 Thomas N. Winslow  
 John C. Winston

S. B.

Walter Brinton  
 William H. Collins, *A. M.*  
 Joseph Horace Cook  
 Davis H. Forsythe  
 Albanus L. Smith

1882

S. B.

George A. Barton, *A. M.*, *A. M.*,  
*Ph. D.*  
 Isaac M. Cox  
 Richard B. Hazard  
 Wilmot R. Jones  
 \*Wilmer P. Leeds, \*1885  
 J. Henley Morgan  
 Edward Randolph

S. B.

John E. Coffin  
 Daniel Corbit  
 George L. Crosman  
 Frederick D. Jones  
 T. Chalkey Palmer  
 Lindley M. Winston

1883

A. B.

John Blanchard, *LL. B.*  
 Frank E. Briggs  
 George H. Evans  
 Francis B. Stuart  
 Bond V. Thomas  
 Thos. K. Worthington, *LL. B.*,  
*Ph. D.*

S. B.

William L. Bailly  
 Stephen W. Collins, *LL. B.*

D. William Edwards

William E. Scull

\*Samuel B. Shoemaker, *M. D.*, \*1893

John D. Spruance

W. Alpheus White

Charles H. Whitney

Louis B. Whitney

1884

A. B.

John Henry Allen, *A. M.*  
 Orren William Bates  
 Thomas Herbert Chase  
 William J. Haines  
 Arthur D. Hall  
 Charles R. Jacob  
 Alfred Percival Smith, *LL. B.*

S. B.

Louis T. Hill  
 Walter L. Moore  
 George Vaux, Jr., *LL. B.*

L. B.

Francis A. White

1885

A. B.

Samuel Bettie  
 Enos L. Doan  
 William T. Ferris  
 William S. Hilles  
 William T. Hussey  
 Arthur W. Jones, *A. M.*  
 Rufus M. Jones, *A. M.*  
 Joseph L. Markley, *A. M.*, *A. M.*,  
*Ph. D.*

Marriott C. Morris  
 Augustus T. Murray, *Ph. D.*  
 Augustus H. Reeve  
 William F. Reeve  
 Isaac Sutton, *A. M.*, *A. M.*  
 Elias H. White, *LL. B.*  
 William F. Wickersham, *A. M.*

S. B.

Charles W. Bailly  
 John J. Blair  
 Thomas Newlin, *A. M.*  
 Theodore W. Richards, *A. M.*,  
*Ph. D.*

\*Matthew T. Wilson, \*1891

1886

A. B.

Jonathan Dickinson, Jr.  
Alexander H. Scott  
Horace E. Smith  
Edward D. Wadsworth, *L.L. B.*

S. B.

\*Thomas W. Betts, \*1893  
Guy R. Johnson  
William S. McFarland  
\*Israel Morris, Jr., \*1891  
William P. Morris  
Alfred M. Underhill, Jr.  
Wilfred W. White

1887

A. B.

Jay Howe Adams, *M. D.*  
Edward B. Cassatt  
William H. Futrell, *L.L. B.*  
Alfred C. Garrett, *A. B., A. M., Ph. D.*  
Henry H. Goddard, A. M.  
Willis Hatfield Hazard, *A. M., Ph. D.*  
Barker Newhall, A. M., *Ph. D.*  
Jesse E. Phillips, Jr., A. M.  
Henry W. Stokes  
Frederic H. Strawbridge  
Richard J. White  
\*George B. Wood, \*1894  
William C. Wood

S. B.

\*Arthur H. Baily, \*1889  
Charles H. Bedell  
Allen B. Clement, A. M.  
Horace Y. Evans, Jr.  
Hugh Lesley  
\*William W. Trimble, \*1891

B. E.

P. Hollingsworth Morris

1888

A. B.

E. Morris Cox  
Howell S. England, A. M.  
Allison W. Slocum, A. M., *Ph. D.*  
Martin B. Stubbs, A. M.

S. B.

Charles H. Battey  
John C. Corbit, Jr.  
Morris E. Leeds  
William Draper Lewis, *L.L. B. Ph. D.*  
Henry V. Gummere, A.M., *A.M.*  
Francis C. Hartshorne, *L.L. B.*  
Joseph T. Hilles  
George B. Roberts  
Joseph W. Sharp, Jr.

B. E.

Lawrence P. Beidelman  
Joseph E. Johnson, Jr., M. E.  
Frederick W. Morris, Jr.  
Richard J. Morris

1889

A. B.

Robert C. Banes  
Thomas F. Branson, *M. D.*  
Charles H. Burr, Jr., A.M., *L.L. B.*  
Thomas Evans  
Warner H. Fite, *Ph. D.*  
Warren C. Goodwin  
Victor M. Houghton  
Franklin B. Kirkbride  
Daniel C. Lewis  
Lawrence J. Morris  
William F. Overman  
Frank W. Pierson, A. M.  
Samuel Prioleau Ravenel, Jr.,  
*L.L. B.*  
Walter George Reade  
Lindley M. Stevens, A. M.  
John Stogdell Stokes  
\*Layton W. Todhunter, \*1889  
Frederick N. Vail, A. M.  
Gilbert C. Wood

S. B.

William R. Dunton, A. M., *M. D.*  
Arthur N. Leeds, A. M.  
J. Henry Painter  
David J. Reinhardt  
Frank E. Thompson, A. M.

B. E.

Herbert Morris

1890

A. B.

Edward M. Angell, *L.L. B.*  
James Stuart Auchincloss

William G. Audenried, Jr.  
 Henry R. Bringham, Jr.  
 Charles T. Cottrell, A. M., *L.L. B.*  
 Guy H. Davies  
 Robert E. Fox  
 Henry L. Gilbert, A. M., *Ph. D.*  
 William G. Jenkins  
 Thomas S. Kirkbride, Jr., *M. D.*  
 Jonathan M. Steere, A. M.

S. B.

Thomas Amory Coffin  
 Percy S. Darlington  
 William M. Guilford, Jr.  
 John N. Guss  
 Edwin J. Haley, A. M.  
 Robert R. Tatnall, A. M., *Ph. D.*  
 Dilworth P. Hibberd, A. M.  
 Alfred C. Tevis

B. E.

John F. Taylor Lewis  
 Edward R. Longstreth  
 William Percy Simpson  
 Ernest Foster Walton

1891

A. B.

Harry Alger  
 David H. Blair  
 Henry A. Todd

S. B.

William W. Handy  
 Arthur Hoopes  
 John Wetherill Hutton, A. M.  
 David L. Mekeel, M. E.  
 John Stokes Morris, A. M.  
 George Thomas, 3d

1892

S. B.

Richard Brinton  
 I. Harvey Brumbaugh, *A. B.*  
 Benjamin Cadbury, A. M.  
 Joseph Henry Dennis  
 Warren A. Detwiler  
 Rufus Hacker Hall  
 Walter Morris Hart, A. M.  
 Gilbert Joseph Palen, *M. D.*  
 Ralph Warren Stone  
 W. Nelson Loflin West, *L.L. B.*  
 Stanley Rhoads Yarnall, A. M.

S. B.

Augustine W. Blair, A. M.  
 Egbert Snell Cary  
 Minturn Post Collins  
 Charles Gilpin Cook, A. M.  
 William Pearson Jenks  
 Franklin McAllister  
 John Wallingford Muir  
 William Hopkins Nicholson, Jr.  
 William Ellis Shipley  
 Joseph Remington Wood

1893

A. B.

Leslie Adelbert Bailey, A. M.  
 \*John Farnum Brown,\* 1894  
 Wilbur Albert Estes  
 Walter Winchip Haviland  
 Clarence Gilbert Hoag, *A. B.*  
 Carroll Brinton Jacobs  
 George Lindley Jones  
 Charles Osborne  
 Charles James Rhoads  
 Eugene M. Westcott  
 \*Franklin Whitall,\* 1894  
 Gifford King Wright

S. B.

Francis F. Davis, A. M.  
 Arthur Villiers Morton  
 John Mickle Okie  
 Edward Rhoads  
 John Roberts  
 Barton Sensenig  
 William Sansom Vaux, Jr.  
 Edward Woolman

1894

A. B.

George A. Beyerle  
 Charles Collins  
 William Wistar Comfort, *A. B.*  
 John Allen DeCou, *A. B.*  
 Clifford Bailey Farr  
 John Paul Haughton  
 James Edward Hughes  
 Louis Jaquette Palmer  
 Frank Clayton Rex  
 Frederick Pearce Ristine  
 Francis Joseph Stokes  
 David Shearman Taber, Jr.  
 Parker Shortridge Williams

## S. B.

J. Henry Bartlett  
 Oscar Marshall Chase, S. M.  
 Henry Shoemaker Conard, A. M.  
 George Brookhouse Dean  
 Kane Stovell Green  
 Anson Burlingame Harvey, A. M.  
 Samuel Wheeler Morris  
 Edward Entwisle Quimby  
 Henry Wismer Scarborough, A. M.  
 William Justus Strawbridge

1895

## A. B.

Samuel Bettie, Jr.  
 Edmund Blanchard, Jr.  
 Samuel Hulme Brown  
 Frank Henry Conklin  
 Charles Howland Cookman  
 James Linton Engle  
 Joseph Spragg Evans, Jr.  
 Henry John Harris  
 George Lippincott, *A. B.*

## S. B.

William Goodman, *A. B.*  
 Arthur Moorhead Hay  
 Erroll Baldwin Hay  
 William Smedley Hilles  
 John Bacon Leeds

Charles Clifford Taylor  
 Allen Curry Thomas, A. M.  
 Henry Evan Thomas  
 Walter Coates Webster

1896

## A. B.

Douglas Howe Adams  
 George Raymond Allen  
 Milton Clauser  
 Arthur Fernandez Coca  
 George Henry Deuell  
 Thomas Harvey Haines  
 John Ashby Lester  
 Paul D. I. Maier  
 Joseph Henry Scattergood  
 Levi Hollingsworth Wood

## S. B.

William Kite Alsop  
 William Henry Bettie  
 Samuel Kriebel Brecht  
 Mark Brooke  
 Albert Dempsey Hartley  
 Charles Russell Hinchman  
 John Quincy Hunsicker, Jr.  
 Samuel Middleton  
 Charles Dickens Nason  
 Marshall Warren Way  
 Homer Jephtha Webster

Whole number of graduates, 580.

The following graduate students have received Advanced Degrees, not having been undergraduates at Haverford :

1890

William B. Eaton, A. B. Wesleyan, 1889, A. M.  
 Charles L. Michener, A. B., Penn, 1884, A. M.  
 Charles E. Pritchard, A. B., Earlham, 1889, A. M.  
 Robert W. Rogers, A. B., Johns Hopkins, 1887, Ph. D.  
 William C. Sayrs, A. B., Wilmington, 1889, A. M.  
 Charles E. Terrell, S. B., Wilmington, 1888, A. M.  
 Charles H. Thurber, Ph. B., Cornell, 1886, A. M.

1891

Lawrence M. Byers, A. B., Penn, 1890, A. M.  
 William H. Carroll, A. B., Wilmington, 1890, A. M.  
 Myron F. Hill, A. B., Harvard, 1890, A. M.  
 Lucian M. Robinson, A. B., Harvard, 1882, A. M.

1892

Elmer A. Gifford, S. B., Penn, 1888, A. M.  
Byron Charles Hubbard, S. B., Earlham, 1891, A. M.

1893

Irving Culver Johnson, S. B., Penn, 1892, A. M.  
Leonard Charles Van Noppen, A. B., Guilford, 1890, B. L., Univ. N. C.  
1892, A. M.

1894

Franklin A. Dakin, A. B., Harvard, 1892, A. M.  
William W. Hastings, A. B. and A. M., Maryville, 1886 and 1892, A. M.  
Mahlon Z. Kirk, S. B., Penn, 1893, A. M.  
Arthur R. Spaid, A. B., Wilmington, 1893, A. M.  
Edwin Mood Wilson, A. B., Guilford, 1892, A. B. Univ. N. C., 1893,  
A. M.

1895

Ira O. Kemble, S. B., Penn, 1894, A. M.  
John Oscar Villars, S. B., Wilmington, 1894, A. M.  
Roy Wilson White, S. B., Earlham, 1894, A. M.

1896

James Addison Babbitt, A. B., Yale, 1893, A. M.  
Arthur Matthew Charles, S. B., Earlham, 1894, A. M.  
Horace Thornburg Owen, A. B., Hamilton, 1895, A. M.  
Luther Milton Hunt, S. B., Wilmington, 1895, A. M.  
Clem Finney Patterson, Ph. B., Penn, 1895, A. M.  
William W. Hastings, A. B. and A. M., Maryville, 1886, 1892, A. M.,  
Haverford, 1894, Ph. D.

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## HONORARY DEGREES.

1858

Hugh D. Vail, A. M.

1859

\*Joseph W. Aldrich, A. M., \*1865

1860

\*John G. Whittier, A. M., \*1892

1864

Edward D. Cope, A. M.

1867

Joseph Moore, A. M.

1872

William Jacobs, A. M.

1875

\*Samuel Alsop, Jr., A. M., \*1888

1876

\*Pliny E. Chase, LL.D., \*1886  
William H. Pancoast, A. M.

1877

\*John J. Thomas, A. M., \*1895

1879

Richard M. Jones, A. M.  
Ellis Yarnall, A. M.

1880

\*Thomas Chase, LL.D., \*1892  
\*Thomas Hughes, LL.D., \*1896

1882	1886
Henry T. Coates, A. M.	Edward H. Magill, LL. D.
1883	1887
*Thomas F. Cock, LL. D. *1896	*Thomas Kimber, LL. D., *1890
James Wood, A. M.	1888
Henry N. Hoxie, A. M.	Clement L. Smith, LL. D.
1884	1890
*Joseph Parrish, A. M., *1893	Joseph John Mills, LL. D.
Elijah Cook, A. M.	1891
1885	Richard M. Jones, LL. D.
*Julius L. Tomlinson, A. M., *1890	1895
Robert Howland Chase, A. M.	Henry Trimble, A. M.

## HOLDERS OF THE HAVERFORD FELLOWSHIP.

1889-90,	{ CHARLES H. BURR.
	{ FRANK E. THOMPSON.
1890-91,	DILWORTH P. HIBBERD.
1891-92,	DAVID LANE MEKEEL,
1892-93,	STANLEY RHOADS YARNALL.
1893-94,	FRANCIS F. DAVIS.
1894-95,	HENRY S. CONARD.
1896-97,	JOHN A. LESTER.

# HAVERFORD COLLEGE STUDIES

- No. 1.—The Library of the Convent of the Holy Sepulchre at Jerusalem; J. Rendel Harris.  
 Work of Haverford College Observatory; F. P. Leavenworth.  
 On the Geometry of a Nodal Circular Cubic; Frank Morley.  
 On the Period of Rotation of the Sun; Henry Crew.  
 On the Symbolic Use of the Colors Black and White in Germanic Tradition; Francis B. Gummere.
- No. 2.—The Rest of the Words of Baruch; J. Rendel Harris.  
 Some Esarhaddon Inscriptions; Robert W. Rogers.
- No. 3.—The Passion of Perpetua; J. Rendel Harris and Seth K. Gifford.  
 On Some Properties of the Triangle; Frank Morley.
- No. 4.—On the Numerical Characteristics of a Cubic Curve; Charlotte Angas Scott.  
 On the Caustic of the Epicycloid; Frank Morley.  
 Sun Spot Observations; H. V. Gummere and F. P. Leavenworth.  
 On a New Manuscript of the Four Gospels; W. C. Braithwaite.  
 A Catalogue of Manuscripts (chiefly Oriental) in the Library of Haverford College; Robert W. Rogers.  
 The Passion of Perpetua; translated by Seth K. Gifford.  
 Specimens of Uncial Lectionaries from Mount Sinai; J. Rendel Harris.
- No. 5.—The Diatessaron of Tatian, a Preliminary Study; J. Rendel Harris.
- Nos. 6 and 7.—The Apology of Aristides; J. Rendel Harris.
- No. 8.—The Codex Bezae; J. Rendel Harris.
- No. 9.—The Codex Sangallensis; J. Rendel Harris.  
 Unpublished Inscriptions of Esarhaddon; Robert W. Rogers.
- No. 10.—Some Interesting Inscriptions; J. Rendel Harris.  
 Stellar Parallax; F. P. Leavenworth.  
 Conform Representation by means of the  $p$ -Function; Frank Morley.
- No. 11.—Municipal Government in England; Isaac Sharpless.  
 Myth and Allegory; Francis B. Gummere.  
 Prof. Ewing's Theory of Magnetism; Arthur Hoopes.  
 New Method of Obtaining a Constant Temperature; Henry Crew.  
 Errors from the Use of Decimals; Ernest W. Brown.  
 Parallax of Delta Herculis; F. P. Leavenworth.  
 Double Star and Sun Spot Observations; F. P. Leavenworth and W. H. Collins.
- No. 12.—The Familists; Allen C. Thomas.  
 On the Reading of "τὸ πάσχα" in John vi. 4; George A. Barton.  
 Our Lord's Quotation from the First Book of Maccabees; Albert J. Edmunds.  
 Parallax of  $\theta$  Arg., 14320, and of  $\delta$  Equilei; Francis P. Leavenworth.  
 Double Star Observations; William H. Collins.  
 Observations of Variable Stars; George L. Jones.  
 Observations of the Partial Eclipse of the Sun, October 20th, 1892; William H. Collins.

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Other numbers will appear as material accumulates.

For copies address

*The Secretary of Haverford College.*

*Haverford P. O., Pa.*





# HAVERFORD COLLEGE



1897-98

THE PRESIDENT desires to place a copy of the Annual Catalogue in the hands of every alumnus and member of the corporation. It is requested that all omissions and errors whether of names or degrees be reported to the Secretary of the College.

CATALOGUE  
OF  
HAVERFORD COLLEGE

HAVERFORD, PA.

1897-98



PHILADELPHIA  
PRESS OF AUSTIN C. LEEDS  
817 FILBERT STREET  
1897

## CALENDAR.

### 1897-98.

College Year 1897-98 began.....	9th Mo. 22
Winter Recess begins.....	12th Mo. 23
Winter Term begins, 1898*.....	1st Mo. 4
Second Half-year begins.....	1st Mo. 31
Junior Exercises.....	4th Mo. 13
Spring Recess begins.....	4th Mo. 14
Spring Term begins*.....	4th Mo. 26
Examinations for Admission.....	6th Mo. 13 & 14
Alumni Meeting.....	6th Mo. 15
Senior Class Day.....	6th Mo. 16
Commencement Day, 1898.....	6th Mo. 17

### 1898-99.

College Year 1898-99 begins*.....	9th Mo. 28
Winter Recess begins.....	12th Mo. 23
Winter Term begins 1899*.....	1st Mo. 3
Second Half-year begins.....	2d Mo. 1
Spring Recess begins.....	4th Mo. 13
Commencement Day, 1899.....	6th Mo. 16

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\*The first recitations at the beginning of each term are due promptly at *half past nine o'clock*. No absences from them are excused, unless clearly unavoidable.

HISTORY AND DESCRIPTION.

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IN the spring of 1830, a meeting of a few Friends in Philadelphia, shortly followed by a similar meeting in New York, originated Haverford School. The joint committee expressed the object of the effort as follows: "The members of the Society of Friends, having hitherto labored under great disadvantages in obtaining for their children a guarded education in the higher branches of learning, combining the requisite literary instruction with a religious care over the morals and manners of the scholars, . . . and carefully preserving them from the influence of corrupt principles and evil communications, it is therefore proposed that an institution be established in which the children of Friends shall receive a liberal education in ancient and modern literature, and the mathematical and other sciences."

The \$40,000 supposed to be necessary was raised without great effort, and the committee went out to seek a location. They say: "We wished to procure a farm in a neighborhood of unquestionable salubrity—within a short distance of a Friends' meeting—of easy access from this city at all seasons of the year, . . . and that was recommended by the beauty of the scenery and a retired situation." They then go on to say that of the many places presented to them the only one which combined all the advantages was one of 198½ acres (since increased to 215), "near the eight-mile stone on the Lancaster Turnpike." They explain the present and prospective merits of the farm, the beauty of the natural woods, the unfailing springs of purest water, the nearness to the new Pennsylvania Railroad, in words which the succeeding half-century has amply justified.

On the 28th of Tenth month, 1833, the school opened with 21 students. Provision had been made for a superintendent and three teachers,—

“ A Teacher of Ancient Languages and Ancient Literature.

“ A Teacher of English Literature, and Mental and Moral Philosophy.

“ A Teacher of Mathematics and Natural Philosophy.”

The Superintendent was to have charge of the government, order, and domestic economy of the family.

The regulations of the new school were rigid. The bounds and time of the boys were very strictly marked out. All the details of the daily programme were arranged with great care ; and if the elaborate provision of a number of wise men for the normal growth of students could convert boys into perfect men, the students of sixty years ago had every advantage.

The High School thus established grew rapidly into prosperity and debt. The charges were low, the teachers were liberally paid, and the years which followed were marked by a constant endeavor to produce a maximum of good fruits from very limited funds. The deficiencies were made up in a liberal spirit, and a constant growth was maintained by frequent subscriptions. All the time the school was justifying the effort by the quality of its results, and making for itself an increasing number of friends.

One of the first acts of the committee, after absolute necessities were provided for, was to construct a gymnasium, and make arrangements for systematical physical work. They were determined that the advantage gained by the salubrity of the surroundings should not be lost for want of exercise. Under their care the lawn was graded at great expense, and foreign and native trees set out, with the design to make it a great arboretum. Cricket, a game not known elsewhere in America, was introduced, and has flourished since. A greenhouse and flower-garden were established and maintained for twenty years by the work of the boys. The idea that has done harm elsewhere, that schools are places for mental development only, had no foothold here ; but morals, muscles, and senses received their due share of culture.

In 1845 a temporary suspension was decreed to allow the funds to accumulate and give time for the collection of an endowment. This suspension lasted for three years. In 1852 the observatory was built, and supplied with an 8-inch equatorial and a 4-inch

transit. In 1856 the school was changed to a college, and was authorized by the legislature to grant degrees; but previous to this time the course had been as extended as in many colleges. It was still hampered with a preparatory department, which was not abolished till 1861. In 1863 the Alumni Hall and Library were built. In 1876-7 Barclay Hall, containing private dormitories and study-rooms was erected, at a cost of \$82,000, which was collected by subscription. The Chemical Laboratories were improved in 1878. The new Observatory was built in 1883; the Mechanical Laboratory established in 1884, and was provided with a new building in 1890. This was burned down in 1896, and a new three-story stone structure (Whitall Hall) built. The Biological Laboratory was established in 1886, and the Physical Laboratory in 1888. Chase Hall, for lectures and recitations, was built in 1888, and the Cricket Shed in 1893. Various donations and bequests were received during these years, and in 1897 was paid to the College the Jacob P. Jones endowment of about a million dollars.

During this time Haverford had developed into a fully-organized college. Many rules, adapted to boys of boarding-school age, had been modified or abandoned, though enough of restraint was retained to provide against demoralization. The standard of admission was raised. Students of any denomination were admitted, though Friends still retained the general control. The number of teachers was increased five-fold. By various donations and bequests the endowment fund was enlarged. The annual charge was increased from \$200 to \$500,\* which still fails to represent what the college has to pay for professors' salaries and the board and care of students. Retaining the old idea of a "guarded education" and "a religious care over morals and manners," the college has sought to effect these results, and has measurably succeeded, rather by appeals to Christian principle and manliness than by arbitrary power.

In Barclay Hall, the hall of residence, two students occupy a

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\*The price may vary, depending on the situation of the room, from \$400 to \$525. Most of the rooms involve a payment of \$500.

study-room, and each has his private adjoining bed-room. A few single rooms are also provided. Recitation-rooms, laboratories, and the dining-room are in Founders' Hall. The Library and Observatory are in separate buildings near by. Some of the professors live in the hall with the students, and others have cottages on the grounds.

The college has a remarkably pleasant and healthful location in the township of Haverford, Delaware County,\* Pa., nine miles west of Philadelphia, on the main line of the Pennsylvania Railroad. The buildings are surrounded by grounds of about sixty acres, tastefully laid out, and adorned with well-kept lawns, and a great variety of trees and shrubbery. These grounds comprise excellent fields for cricket, foot-ball, tennis, and other field games, a running and bicycle track, and a pond for skating.

The courses of study are designed to give a liberal education. Their scope will be seen on the following pages. Religious instruction is carefully provided. In addition to the daily reading of the Holy Scriptures, recitations in the English or Greek New Testament or in Scripture History are required of the student once a week. By exposition and collateral information the instructors endeavor to enforce the true meaning of the lessons. Haverford College desires to inculcate the simple truths of the Christian religion.

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\* Haverford *Post-Office* is in Montgomery County.



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---

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233 Chestnut Street, Philadelphia.

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Girard Building, Philadelphia.

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*Secretary of the Board,*

HOWARD COMFORT,  
529 Arch Street, Philadelphia.

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HOWARD COMFORT,  
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JAMES WOOD.

FACULTY.

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Professor of Latin.

WILLIAM H. COLLINS, A. M., PREFECT,  
and Director of the Observatory.

\* Absent—1897-8.

HENRY S. PRATT, PH. D.,  
Associate Professor of Biology (David Scull Foundation).

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WILLIAM WISTAR COMFORT, A. M.,  
Instructor in French and German.

OTTIS EARL MENDENHALL, A. B.,  
Assistant in the Library.

# STUDENTS.

## GRADUATE STUDENT.

Ottis Earl Mendenhall, A. B., Lexington, N. C.

## SENIOR CLASS.

Cadbury, William Warder,	<i>Philadelphia, Pa.,</i>	Arts.
Ellis, Richard Stanton,	<i>Motor, Iowa,</i>	Science.
Embree, John Gyger,	<i>Marshallton, Pa.,</i>	Science.
Haines, Joseph Howell,	<i>Germantown, Pa.,</i>	Arts.
Harding, Arthur Search,	<i>Overbrook, Pa.,</i>	Arts.
Hodgin, Samuel Horace,	<i>Greensboro, N. C.,</i>	Arts.
Janney, Walter Coggeshall,	<i>Philadelphia, Pa.,</i>	Arts.
Jones, Davis Godfrey,	<i>Wilmington, Del.,</i>	Science.
Moffitt, Oscar Peyton,	<i>Lexington, N. C.,</i>	Arts.
Rhoads, Samuel,	<i>Germantown, Pa.,</i>	Arts.
Ross, Eldon Roxy,	<i>Wilmington, Ohio,</i>	Science.
Scattergood, Alfred Garrett,	<i>Philadelphia, Pa.,</i>	Arts.
Stadelman, Frederick,	<i>Bala, Pa.,</i>	Arts.
Sterner, Ira Isbon,	<i>Kellers' Church, Pa.,</i>	Arts.
Strawbridge, Francis Reeves,	<i>Germantown, Pa.,</i>	Science.
Swan, Frederick Asa,	<i>Lake Kerr, Fla.,</i>	Arts.
Taylor, Joseph Wright,	<i>Haverford, Pa.,</i>	Science.
Wilson, Robert North,	<i>Lenoir, N. C.,</i>	Arts.
Wistar, Thomas,	<i>Germantown, Pa.,</i>	Arts.
Wood, Richard Davis,	<i>Philadelphia, Pa.,</i>	Arts.

## JUNIOR CLASS.

---

Bathey, William Aldrich,	<i>Providence, R. I.,</i>	Science.
Bawden, William John,	<i>Philadelphia, Pa.,</i>	Arts.
Butler, James Edgar,	<i>Uwchlan, Pa.,</i>	Arts.
Carter, John Darlington,	<i>Lenape, Pa.,</i>	Science.
Conklin, Edward B.,	<i>Brooklyn, N. Y.,</i>	Mechanical Eng.
DeCou, Benjamin Satterthwait,	<i>Moorestown, N. J.,</i>	Mechanical Eng.
Evans, Francis Algernon,	<i>Germantown, Pa.,</i>	Arts.
Haines, Alfred Sharpless,	<i>West Grove, Pa.,</i>	Arts.
Haines, Arthur,	<i>Philadelphia, Pa.,</i>	Science.
Jones, Rufus Horton,	<i>Deering, Maine,</i>	Arts.
Lee, Morris Matthews,	<i>Philadelphia, Pa.,</i>	Arts.
Lowry, Howard Haines,	<i>Philadelphia, Pa.,</i>	Arts.
Lycett, Edward Hough,	<i>St. Louis, Mo.</i>	Science.
Maule, Alfred Collins,	<i>Philadelphia, Pa.,</i>	Mechanical Eng.
Mellor, Ralph,	<i>Philadelphia, Pa.,</i>	Mechanical Eng.
Mifflin, Archer B.,	<i>Wayne, Pa.,</i>	Special.
Morris, Joseph Paul,	<i>Philadelphia, Pa.,</i>	Arts.
Redfield, John Howard, Jr.,	<i>Wayne, Pa.,</i>	Mechanical Eng.
Richie, Elisha Roberts,	<i>Moorestown, N. J.,</i>	Science.
Shipley, Malcolm Augustus, Jr.,	<i>Germantown, Pa.,</i>	Arts.
Wild, Arthur Clement,	<i>Philadelphia, Pa.,</i>	Arts.
Wilson, Louis Round,	<i>Lenoir, N. C.,</i>	Arts.

## SOPHOMORE CLASS.

---

Allen, Charles Jackson,	<i>Moorestown, N. J.,</i>	Mechanical Eng.
Bell, William Brown,	<i>New York, N. Y.,</i>	Arts.
Burdette, Robert Jones, Jr.,	<i>Bryn Mawr, Pa.,</i>	Arts.
Carter, Charles Henry,	<i>Lenape, Pa.,</i>	Science.
Carter, John Pim,	<i>Germanstown, Pa.,</i>	Arts.
Chamberlain, William Reginald,	<i>Portland, Me.,</i>	Special.
Cope, Francis Reeve, Jr.,	<i>Germantown, Pa.,</i>	Arts.
Drinker, Henry Sandwith, Jr.,	<i>Haverford, Pa.,</i>	Arts.
Emlen, John Thompson,	<i>Germantown, Pa.,</i>	Arts.
Eshleman, Frank Mercur,	<i>Lancaster, Pa.,</i>	Arts.
Febiger, Christian,	<i>Philadelphia, Pa.,</i>	Mechanical Eng.
Freedley, William Gardiner, Jr.,	<i>Philadelphia, Pa.,</i>	Special.
Freeman, Edward Dale,	<i>Warren, Pa.,</i>	Arts.
Hallett, Henry McLellan,	<i>Windham Centre, Me.,</i>	Arts.
Hinchman, Walter Swain,	<i>Philadelphia, Pa.,</i>	Arts.
Howson, Furman Sheppard,	<i>Wayne, Pa.,</i>	Mechanical Eng.
Jenks, Horace Howard,	<i>Philadelphia, Pa.,</i>	Science.
Justice, William Warner, Jr.,	<i>Philadelphia, Pa.,</i>	Science.
Levick, Henry Lewis d'Invilliers,	<i>Bala, Pa.,</i>	Arts.
Lloyd, John Eshleman,	<i>Germantown, Pa.,</i>	Special.
Lutz, Frank Eugene,	<i>Bloomsburg, Pa.,</i>	Arts.
Marshall, Moses,	<i>Lawrence, Mass.,</i>	Arts.
Mifflin, Samuel Wright,	<i>Wayne, Pa.,</i>	Arts.
Moorhouse, J. Kennedy,	<i>Pittsburg, Pa.,</i>	Arts.
Murphy, Grayson Mallet-Prevost	<i>Atlantic City, N. J.,</i>	Arts.
Seager, Schuyler Fiske,	<i>Hancock, Mich.,</i>	Arts.
Sensenig, Heber,	<i>Spring Grove, Pa.,</i>	Arts.
Sharpless, Frederic Cope,	<i>Haverford, Pa.,</i>	Arts.
Stuart, Henry Harlan,	<i>Minneapolis, Minn.,</i>	Arts.
Tatnall, Abram Gibbons,	<i>Coatesville, Pa.,</i>	Science.
Taylor, Edward Ballinger, Jr.,	<i>Sewickley, Pa.,</i>	Arts.
Taylor, Joseph McFerran,	<i>Philadelphia, Pa.,</i>	Arts.
Walter, Frank Keller,	<i>Point Pleasant, Pa.,</i>	Arts.
Wendell, Robert Stewart,	<i>Wayne, Pa.,</i>	Mechanical Eng.

## FRESHMAN CLASS.

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Allen, Charles Francis,	<i>Haverford, Pa.,</i>	Mechanical Eng.
Babbitt, Harold French,	<i>W. Brattleboro, Vt.,</i>	Arts.
Baltz, William Sagehorn,	<i>Whitford, Pa.,</i>	Science.
Bankard, Clarence W.,	<i>Berwyn, Pa.,</i>	Arts.
Brown, Ellis Yarnall, Jr.,	<i>Downington, Pa.,</i>	Arts.
Bullinger, Howard Valentine,	<i>Philadelphia, Pa.,</i>	Arts.
Cadbury, John Warder,	<i>Philadelphia, Pa.,</i>	Arts.
Cadbury, William Edward,	<i>Germantown, Pa.,</i>	Arts.
Chase, Frank Sewell,	<i>Manchester, N. H.,</i>	Mechanical Eng.
DeArmond, James Keyser,	<i>Merion, Pa.,</i>	Arts.
DeMotte, Lawrence Washburn,	<i>Bryn Mawr, Pa.,</i>	Arts.
Freeman, Alfred Edgar,	<i>Philadelphia, Pa.,</i>	Science.
Grayson, Theodore Julius,	<i>Wayne, Pa.,</i>	Science.
Langfeld, Herbert Sydney,	<i>Philadelphia, Pa.,</i>	Arts.
Kirkbride, William Howard,	<i>Philadelphia, Pa.,</i>	Science.
Macomber, Edward Leonard,	<i>Central Village, Mass.,</i>	Science.
Mellor, Walter,	<i>Philadelphia, Pa.,</i>	Mechanical Eng.
Moore, Herbert Wills,	<i>Hartford, N. J.,</i>	Science.
Neilson, William LaCoste,	<i>Philadelphia, Pa.,</i>	Arts.
Off, Edward Peltz,	<i>Philadelphia, Pa.,</i>	Special.
Patton, Richard Henry,	<i>Wayne, Pa.,</i>	Arts.
Randolph, Evan,	<i>Philadelphia, Pa.,</i>	Arts.
Rossmässler, Edward Collins,	<i>Germantown, Pa.,</i>	Mechanical Eng.
Scholey, Howard Wilson,	<i>Philadelphia, Pa.,</i>	Mechanical Eng.
Scull, Edward Marshall,	<i>Overbrook, Pa.,</i>	Arts.
Sharp, Frederick William,	<i>Berwyn, Pa.,</i>	Arts.
Taylor, Herbert Hazzard,	<i>Philadelphia, Pa.,</i>	Arts.
Thomas, Russell Elmslie,	<i>Devon, Pa.,</i>	Science.
Tomlinson, Alexander Cooper,	<i>Kirkwood, N. J.,</i>	Special.
Walenta, George John,	<i>Philadelphia, Pa.,</i>	Arts.
Webster, I. Herbert,	<i>Media, Pa.,</i>	Mechanical Eng.
Wirgman, William Wayne,	<i>Paoli, Pa.,</i>	Mechanical Eng.
Woodward, William Wellington,	<i>West Chester, Pa.,</i>	Arts.
Zook, Charles Augustus Bitner,	<i>Lancaster, Pa.,</i>	Special.

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## ADMISSION.

**After 1898 candidates for the Freshman Class will be admitted only on examination.**

In the fall of 1898 the certificates of principals of first-class schools will, at the discretion of the President, be accepted in place of entrance examinations. Blank forms will be furnished on application. Certificates of private tutors will *not* be accepted.

Examinations are held twice a year, in the Sixth and Ninth months.

They will be at the College, except in the case of distant candidates for whom special arrangements may be made.

In 1898 the dates will be as follows :—

*Sixth month 13th, and Ninth month 26th.*

9-10	{ Latin Composition	1½-2½	Algebra.
	{ Elementary Physics,	2¾-3¾	Plane Geometry.
10¼-11¼	{ Latin Prose Authors	4-5	{ Greek Composition
	{ Elementary Physiology		
11¼-12¼	Latin Poets.		



*Sixth month 14th and Ninth month 27th.*

9-11	{ Greek Authors, French.	1½-3½ German.
11¼-12¾	English,	3¾-4¾ History.

A candidate may pass a Preliminary Examination in some of his studies, and be examined in the remaining studies in a subsequent year. A certificate will be given for the studies passed. No student will be admitted to a Preliminary Examination without a Certificate of Preparation from his teacher, specifying the subjects in which he is prepared.

Candidates for Corporation Scholarships (see page 30) must take all their examinations not later than the Sixth month of the year of entry. Such candidates should announce their intention at least two weeks before the time of examination.

#### SUBJECTS OF EXAMINATION.

For all Candidates :

##### ENGLISH. \*

I. *Reading*.—A certain number of books will be set for reading. The candidate will be required to present evidence of a general knowledge of the subject-matter. The form of examination will usually be the writing of a paragraph or two on each of several topics, to be chosen by the candidate from a considerable number set before him in the examination paper. The treatment of these topics is designed to test the candidate's power of clear and accurate expression, and will call for only a general knowledge of the substance of the books. In place of this test, the candidate may present an exercise book, properly certified by his instructor, containing compositions or other written work done in connection with the reading of the books.

The books set for this part of the examination will be :

1898 : Milton's *Paradise Lost*, Books I. and II.; Pope's *Iliad*,

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\* NOTE—No candidate will be accepted in English, whose work is notably defective in point of spelling, punctuation, idiom, or division into paragraphs.

Books I. and XXII.; *The Sir Roger de Coverley Papers* in *The Spectator*; Goldsmith's *The Vicar of Wakefield*; Coleridge's *Ancient Mariner*; Southey's *Life of Nelson*; Carlyle's *Essay on Burns*; Lowell's *Vision of Sir Launfal*; Hawthorne's *The House of the Seven Gables*.

1899: Dryden's *Palamon and Arcite*; Pope's *Iliad*, Books I., VI., XXII. and XXIV.; *The Sir Roger de Coverley Papers* in *The Spectator*; Goldsmith's *Vicar of Wakefield*; Coleridge's *Ancient Mariner*; De Quincey's *Flight of a Tartar Tribe*; Cooper's *Last of the Mohicans*; Lowell's *Vision of Sir Launfal*; Hawthorne's *House of the Seven Gables*.

II. *Study and Practice*.—This part of the examination presupposes the thorough study of each of the works named below. The examination will be upon the subject-matter, style and construction.

The books set for this part of the examination will be;

1898: Shakspere's *Macbeth*; Burke's *Speech on Conciliation with America*; De Quincey's *The Flight of a Tartar Tribe*; Tennyson's *The Princess*.

1899: Shakspere's *Macbeth*; Milton's *Paradise Lost*, Books I. and II.; Burke's *Speech on Conciliation with America*; Carlyle's *Essay on Burns*.

HISTORY.—United States History, Greek and Roman History.

NOTE.—English History may be substituted for Ancient History in the case of students not presenting the Greek or Latin Language.

MATHEMATICS.—*Algebra*, including quadratic equations and radicals; *Plane Geometry*.

NOTE.—*Solid Geometry* will be required of all students not presenting Greek.

SCIENCE.—Elementary Physics and Human Physiology will be required of all students presenting neither Greek nor Latin.

## TWO OF THE FOLLOWING LANGUAGES :\*

*Greek*.—(a) Xenophon, the *Anabasis*, Books I.-IV.; Homer, the *Iliad*, Books I.-III., omitting the Catalogue of Ships. [The examination will be designed to test the candidate's knowledge of grammatical forms and constructions, and his ability to translate into idiomatic English]. (b) The translation at sight of simple Attic prose. (c) The translation into Greek of a simple English passage, based upon some portion of the Xenophon prescribed.

*Latin*.—(a) Cæsar, the *Gaulic War*, Books I.-IV.; Cicero, the speech on the *Manilian Law*, the four against Catiline, and the speech for Archias; Vergil, the *Æneid*, Books I.-VI. [The examination will be designed to test the candidate's knowledge of grammatical forms and constructions, and his ability to translate into idiomatic English]. (b) The translation at sight of simple Latin prose or verse. (c) The translation into Latin of a simple English passage, based upon some portion of the Cicero or Cæsar prescribed.

*German*.—(a) The translation at sight of ordinary simple German prose. (The passages set for translation must be rendered into simple idiomatic English.)

(b) The translation into German of simple English sentences or of easy connected prose, to test the candidate's familiarity with the grammar. Proficiency in grammar may also be tested by direct questions.

The passages set for translation into English will be suited to the proficiency of candidates who have read not less than two hundred pages (including reading at sight in class) from the works of at least three different authors. Suggestions as to authors or books will be given if desired.

*French*.—(a) The translation at sight of ordinary Nineteenth Century French. (The passages set for translation must be rendered into simple idiomatic English.)

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\* NOTE.—Of all candidates for the Bachelor of Arts degree *either* Greek or Latin will be required. Of all candidates for admission to the Engineering course only one language will be required.

(b) The translation into French of simple English sentences or of easy connected prose, to test the candidate's familiarity with the grammar. Proficiency in grammar may also be tested by direct questions.

The passages set for translation into English will be suited to the proficiency of candidates who have read not less than four hundred pages (including reading at sight in class) from the works of at least three different authors. Suggestions as to authors or books will be given if desired.

Equivalents will be accepted in all the linguistic requirements.

Students not able to pass all the examinations may be conditioned on a limited number.

Students not candidates for a degree may, at the discretion of the Faculty, be permitted to pursue special courses, for proficiency in which, certificates may be granted ; but this permission will be given only to students of sufficient ability and character to insure their success.

Candidates may be admitted to advanced classes if found fitted in all the preliminary studies of the course.

Each candidate must forward, together with his application, a certificate of good moral character from his last teacher ; and students from other colleges must present certificates of honorable dismissal in good standing.

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## COURSES OF INSTRUCTION.

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There are three courses :—

1. *Course in Arts*, leading to the degree of *Bachelor of Arts*.
2. *Course in Science*, leading to the degree of *Bachelor of Science*.

3. *Course in Mechanical Engineering*, leading to the degree of *Bachelor of Science*.

The first two of these courses are combined in the following table.

Students must continue for two years the languages presented on admission. The degree of Bachelor of Arts will be given only to a student who takes either Latin or Greek.

## COURSE IN ARTS AND COURSE IN SCIENCE.

### FRESHMAN YEAR.

1. *Scripture*. General outline of the history and literature of the Bible. One hour a week.

2. *English*.—A. S. Hill, *Principles of Rhetoric*; Fletcher and Carpenter, *Theme Writing*; English Literature; Themes; Declamations. Three hours a week.

3. *History*. Ransome's *History of England*. Two hours a week.

4. *Mathematics*; *Solid Geometry*; Hall and Knight's *Higher Algebra*; Jones's *Trigonometry*; Geometrical Conic Sections. Four hours a week.

NOTE—Students presenting *Solid Geometry* for admission will take a course in *Elementary Mechanics*.

5 and 6. Two of the following languages:

a. *Greek*. Lysias, *Select Orations*; Herodotus, *Selections*; Homer, *Selections*; Translation at sight; Greek Composition. Four hours a week.

b. *Latin*. Cicero, *Fourth Verrine*; Virgil, *Bucolics* and *Georgics*, Bk. iv.; Livy, Bks. xxi, xxii; Translation at sight; Prose Composition. Four hours a week.

c. *German*. Exercises in composition; Freytag, *Die Journalisten*; Schiller, *Wallenstein*; Lessing, *Minna von Barnhelm*; Selections from German Prose; Reading at sight; Private Reading of books assigned by the instructor. Four hours a week.

d. *French*. Nineteenth Century; Daudet, Augier, Sandeau, Pailleuron, Lamartine, Hugo, DeMusset, Mérimée. Seventeenth Century; Bossuet, Bourdaloue, Massillon, Corneille, Racine, Molière. History of French Literature (XVII-XIX Centuries); Composition. Four hours a week.

7. *Physical Training*. Physiology and Hygiene—First Quarter; Gymnasium Work—Second and Third Quarters.

## SOPHOMORE YEAR.

1. *Scripture*. Greek or English New Testament. One hour a week.
2. *English*.—Barrett Wendell, *English Composition*; Readings in English Literature; Lectures; Themes; Spoken Forensics. Two hours a week.
3. *Mathematics*. Smith's *Analytical Geometry*. Four hours a week the first half-year.
- 4 and 5. Two of the following languages :
  - a. *Greek*. Plato, *Apology* and *Crito*, or *Phaedo*; Æschylus, *Prometheus*; Euripides, *Alcestis*; Translation at sight (Xenophon, *Memorabilia*); Exercises in writing Greek; Thucydides, *Selections*. Three hours a week.
  - b. *Latin*. Tacitus, *Germania* and *Agricola*; Pliny, *Selected Letters*; Horace, *Odes* and *Epodes*; Translation at sight; Mackail's *Latin Literature*. Three hours a week.
  - c. *German*. Goethe, *Faust*, *Iphigenie*, and *Aus Meinem Leben*. Freytag, *Aus dem Staat Friedrichs des Grossen*; Private Reading; Lectures on German Literature. Three hours a week.
  - d. *French*. Molière, Hugo, Balzac. History of French Literature from the beginning to the Seventeenth Century. Three hours a week.
6. *Physics*. Elementary Physics, and Laboratory Work. Four hours a week the first half-year.
7. *Chemistry*. Elementary General Chemistry, Lectures and Laboratory Work. Four hours a week the second half-year.

NOTE.—In all such cases the number of recitations or their equivalent in laboratory work is given—one hour of recitation being supposed equivalent to two and a half of laboratory.

8. The student will also elect one of the following the second half-year.
  - a. *Mathematics*. Calculus. Four hours a week.
  - b. *Elementary Biology*. Lectures, and Laboratory Work. Five hours a week.
9. *Physical Training*. Gymnasium Work.

## JUNIOR YEAR.

1. *Scripture*. One hour a week.
  2. *Political Science*. Political Economy; Economic Problems (Text Book, Discussions and Lectures). Two hours a week.
  3. *Philosophy*. Logic and Psychology. Two hours a week.
  4. *Themes*.
  5. *Elective Studies* from the lists on pages 22–26, subject to the limitations in the following notes. Ten hours a week.
- Note 1.* All students shall have had before graduation at least one year (three hours) each of German and French.
- Note 2.* All candidates for the Bachelor of Arts degree shall take either Greek, Latin or Mathematics (three hours) in the Junior year.

*Note 3.* All candidates for the Bachelor of Science degree shall take two of the following (each three hours) in the Junior year: Mathematics, Chemistry, Physics, Geology and Astronomy, Biology.

## SENIOR YEAR.

1. *Scripture.* One hour a week.
2. *Ethics.* Two hours a week.
3. *Themes.*
4. *Elective Studies* from the lists on pages 22-26. Twelve hours a week.

## SYNOPSIS OF ABOVE COURSES.

## FRESHMAN.

Scripture,.....	1 hour.
English,.....	3 hours.
History,.....	2 "
Mathematics,.....	4 "
Two of the following,.....	8 "
Greek,.....	4 hours.
Latin,.....	4 "
German,.....	4 "
French,.....	4 "
Physical Training.	

## JUNIOR.

Scripture,.....	1 hour.
Political Science,.....	2 hours.
Philosophy,.....	2 "
Electives,.....	10 "
Themes.	

## SOPHOMORE.

Scripture,.....	1 hour.
English,.....	2 hours.
Mathematics, 1st half...	} 4 hours.
Mathematics 4 } 2nd half	
or Biology 5 }	
Physics, 1st half.....	} 4 hours.
Chemistry, 2nd half,....	
Two of the following,.....	6 hours.
Greek,.....	3 hours.
Latin,.....	3 "
German,.....	3 "
French,.....	3 "
Physical Training.	

## SENIOR.

Scripture,.....	1 hour.
Ethics,.....	2 hours.
Electives,.....	12 "
Themes.	

## MECHANICAL ENGINEERING COURSE.

## FRESHMAN YEAR.

Mathematics,.....	4 hours.
Shop Work and Drawing,.....	10=4 "
French or German.....	4 "
English and History...	5 "

## SOPHOMORE YEAR.

Mathematics,.....	4 hours.
Shop Work and Drawing,.....	10=4 "
Physics and Chemistry,.....	4 "
French or German,.....	3 "
English,.....	2 "

JUNIOR YEAR.		SENIOR YEAR.	
Applied Mathematics, ..	3 hours.	Ethics, .....	2 hours.
Shop Work and Drawing, .....	10=4 “	Mechanics and Thermodynamics, .....	3 “
Materials of Engineering, .....	2 “	Mechanical Laboratory, .....	10=4 “
Chemistry, .....	5=2 “	Theory of Steam Engine, Machine Design, .....	3 “
Descriptive Geometry, etc., .....	2 “	Electives, .....	3 “
Electives, .....	2 “		

For Electrical Students the course will be modified during the last two years so as to include a course in Theoretical and Practical Electricity.

Scripture and Themes are required throughout, and Physical Training through two years.

## PREPARATORY MEDICAL COURSE.

This course is designed for students who are candidates for the degree of A. B. or S. B. and who are looking forward to the study of medicine. It is intended that the studies included in it shall be taken as electives principally during the Junior and Senior years. Students satisfactorily completing this course will receive certificates which, together with their diplomas, will admit them without examination to the second year of the Medical School of the University of Pennsylvania or the Jefferson Medical School of Philadelphia.

The studies included in this course, together with the whole number of hours in the lecture-room and laboratory necessary to be devoted to each, are as follows :

General Biology, ... ..	96 hours.	Histology, .....	72 hours.
Zoology, .....	96 “	Physiology, .....	72 “
Botany, .....	96 “	Physics, .....	72 “
Mammalian Anatomy, ...	96 “	Chemistry, .....	216 “
Embryology, .....	48 “	Human Anatomy, .....	144 “

Students not candidates for a degree may take the above studies in two years. Such students may not be admitted to the second year of the Medical Schools.

## ELECTIVE COURSES.

Seniors and Juniors will elect from the following list, with the



approbation of the Faculty, courses sufficient to make up the required number of hours.

## GREEK.

I. Sophocles, *Antigone*, *Œdipus Tyrannus*; Euripides, *Medea*; Aristophanes, *Frogs*. [Prof. Gifford. \*3.]

II. Plato, *Gorgias*, and *Selections*; Demosthenes, *On the Crown*. [Prof. Gifford. 3.]

III. Outline of the History of Greek Literature; *Selected Readings*, Lectures.

Greek Archæology, *Topics*, *Lectures*. [Prof. Gifford, 3.]

Only two of the above courses are given in the same year.

## LATIN.

I. Selections from Lucretius and Catullus; Vergil, *Georgics* i, ii, iv and *Æneid*, vi; Tacitus *Annals*, Bks. i-vi. Translation at sight.

[Dr. Mustard. 3.]

II. The principal Satires of Horace and Juvenal; Terence, *Adelphæ*, and Plautus, *Menæchmi*; Cicero, *De Officiis*. Translation at sight.

[Dr. Mustard. 3.]

III. Advanced Latin Composition. [Dr. Mustard. 1.]

## ENGLISH.

I. ANGLO-SAXON.—Bright, *Anglo-Saxon Reader*; *Beowulf*; Lectures. [Dr. Gummere. 2.]

II. ENGLISH LITERATURE IN THE FOURTEENTH CENTURY.—Chaucer's *Canterbury Tales*. Lectures. [Dr. Gummere. 2.]

III. SHAKSPEARE AND MILTON; Private Readings; Lectures on Elizabethan Poetry. [Dr. Gummere. 2.]

IV. ENGLISH LITERATURE OF THE EIGHTEENTH CENTURY.—Selections from Representative Authors; Lectures; Private Readings. [Dr. Gummere. 2.]

V. ENGLISH LITERATURE OF THE NINETEENTH CENTURY.—Selections from Representative Authors; Lectures; Private Readings.

[A. C. L. Brown. 1.]

VI. ADVANCED ENGLISH COMPOSITION AND ORAL DISCUSSION. Daily Themes. Forensics preceded by Briefs. [A. C. L. Brown. 2.]

Only those who have attained good rank in Freshman and Sophomore English will be admitted to this Class. Members of it will be exempted from regular theme work.

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\* These figures represent the number of hours per week. In Laboratory Work, etc., two and a half hours count as one.

## GERMAN.

I. MIDDLE-HIGH-GERMAN.—Paul, *Mittelhochdeutsche Grammatik*. Selections from the Poems of Walther von der Vogelweide. *Das Niebelungenlied*. [Dr. Gummere. 2.]

II. GÖTTE, *Faust*, *Iphigenie*, and *Aus Meinem Leben*; Freytag, *Aus dem Staat Friedrichs des Grossen*; Private Readings; Lectures in German Literature. [Dr. Gummere. 3.]

III. Exercises in Composition; Freytag, *Die Journalisten*; Schiller, *Wallenstein*; Lessing, *Minna von Barnhelm*; Selections from German Prose; Reading at sight; Private reading of books assigned by the instructor. [Dr. Gummere. 4.]

IV. Joynes-Meissner, *German Grammar*; Harris, *German Reader*; Storm, *Immensee*, *Geschichten aus der Tonne*; Translations at sight of ordinary prose; Exercises in Composition. [A. C. L. Brown. 3.]

## FRENCH.

I. Molière, Hugo, Balzac. History of French Literature from the Beginning to the Seventeenth Century. [Prof. Ladd. 3.]

II. Nineteenth Century: Daudet, Augier, Sandeau, Pailleron, Lamartine, Hugo, De Musset, Mérimée. Seventeenth Century: Bossuet, Bourdaloue, Massillon, Corneille, Racine, Molière. History of French Literature (XVII-XIX Centuries); Composition. [Prof. Ladd. 4.]

III. Grandgent's *French Grammar*; Erckmann-Chatrian's *Madame Thérèse*; Labiche's *Le Voyage de M. Perrichon*; Sand's *La Mare au Diable*; Coppée's *Le Luthier de Crémone*. [Prof. Ladd. 3.]

## PURE MATHEMATICS.

I. Analytical Geometry of three Dimensions. Calculus. [Prof. Morley. 3.]

This course is required of Engineering Students in their Junior year; and it is the proper course, in general, for all students who elect Pure Mathematics in their Junior year.

II. Modern Methods in Analytic Geometry. [Prof. Morley. 3.]

III. Introduction to the Theory of Functions. The Trigonometric and Elliptic Functions. [Prof. Morley. 3.]

IV. Fourier Series and Spherical Harmonics. [Prof. Morley. 3.]

## APPLIED MATHEMATICS.

I. Introduction to Analytical Mechanics, including attraction and Potential. [Dr. Brown. 3.]

II. Differential Equations (Forsyth). [Dr. Brown. 3.]

III. Elementary Rigid Dynamics (Routh). [Dr. Brown. 3.]

## HISTORY.

I. American Colonial History to 1783; Europe and America during the Eighteenth Century. [Prof. Thomas. 3.]

- II. Constitutional and Political History of the United States, 1783 to 1865. [Prof. Thomas. 3.]

Courses I. and II. are intended to be given in alternate years.

## PHILOSOPHY.

- History of Philosophy. [R. M. Jones. 2.]  
History of the Development of Christian Thought. [R. M. Jones. 2.]

## POLITICAL SCIENCE.

- I. Economic Theory with special reference to problems of distribution : Discussions and Lectures. (Half-year.) [D. C. Barrett. 3.]  
II. Money and Banking ; Discussions, Reports and Lectures. (Half-year.) [D. C. Barrett. 3.]  
III. Modern Government : American and European Systems : Discussions, Reports and Lectures. [D. C. Barrett. 3.]

## ASTRONOMY.

- I. Practical Astronomy, with Observatory Practice. [W. H. Collins. 2.]  
II. Descriptive Astronomy. (Half-year.) [W. H. Collins. 3.]

## CHEMISTRY.

- I. General and Analytical Chemistry ; Lectures and Laboratory Work. [Dr. Hall. 2 or more.]  
II. General and Analytical Chemistry ; Lectures and Laboratory Work. Course II. must be preceded by Course I. [Dr. Hall. 2 or more.]  
III. Organic Chemistry ; Lectures and Laboratory Work. [Dr. Hall. 2.]

## BIOLOGY.

All of the following Courses except Course VII. must be preceded by the Course in Elementary Biology, given in the second half of the Sophomore year.

- I. Comparative Anatomy of Vertebrates ; Lectures and Laboratory Work. [Dr. Pratt. 3.]  
II. Morphology of Invertebrates ; Lectures and Laboratory Work. [Dr. Pratt. 1 or more.]  
III. Histology of Vertebrates ; Lectures and Laboratory Work. [Dr. Pratt. 3.]  
IV. Embryology of Vertebrates ; Lectures and Laboratory Work. [Dr. Pratt. 3.]  
V. General Botany ; Lectures and Laboratory Work. [Dr. Pratt. 2.]

- VI. Entomology ; Lectures and Laboratory Work. [Dr. Pratt. 2.]  
 VII. Evolution and Heredity ; Lectures. [Dr. Pratt. 1.]

The above Courses are arranged to occupy two years. Courses I., II. and VII. each occupies a year ; Courses III. and IV. together occupy a year ; Courses V. and VI. together occupy a year. Course I. is given in alternate years with Courses III. and IV.; Courses V. and VI. are given in alternate years with Course VII. Seniors and graduate students who are properly prepared will be given any advanced work they may elect including special investigations.

- VIII. Human Anatomy (Preparatory Medical). [J. A. Babbitt. 2.]  
 IX. Advanced Physiology. [J. A. Babbitt. 1.]

#### GEOLOGY.

- Elementary Geology ; Recitations and Field Work. (Half-year.)  
 [Dr. Pratt. 3.]

#### ENGINEERING.

- I. Materials of Construction ; Theory of Steam Engine.  
 [Prof. Edwards. 2.]  
 II. Descriptive Geometry ; Elements of Mechanism.  
 [Profs. Edwards and Brown. 2.]  
 Courses I. and II. will be given in alternate years.  
 III. Machine Design and Draughting. (Open only to Engineering Students.) [Prof. Edwards. 2.]

#### PHYSICS.

- I. Electricity and Magnetism ; S.P. Thompson's Lessons and Entage's Electricity and Magnetism ; Lectures, Recitations and Laboratory Work.  
 [Prof. Edwards. 2.]  
 II. Electrical Engineering ; Sligo and Brooker's Electrical Engineering and S. P. Thompson's Dynamo-Electric Machinery, with Laboratory Work.  
 [Prof. Edwards. 2.]  
 III. Theory of Heat ; Stewart's Heat and Clausius' Mechanical Theory of Heat, with Laboratory Work. [Prof. Edwards. 2.]

PUBLIC LECTURES, 1896-97.

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HAVERFORD LIBRARY LECTURES.

DR. EDWARD CALDWELL MOORE :

The History of the Canon of the New Testament. (Three Lectures).

DR. GEORGE A. BARTON :

The Prophet Amos. (One Lecture).

DR. JOHN P. PETERS :

The Nippur Expedition and its bearing on the Bible. (Two Lectures).

FACULTY LECTURES.

DR. HENRY S. PRATT :

The Deep Sea and Life There.

DR. WILFRED P. MUSTARD :

The English Public School.

PRES. ISAAC SHARPLESS :

The Early Settlers of Haverford and Vicinity.

PROF. SETH K. GIFFORD :

Homeric Ethics.

OTHER LECTURES.

DR. ALBERT S. BOLLES :

The Relation of the Individual to the State.

CHARLES RICHARDSON :

Municipal Reform.

THOMAS L. HICKS :

The Highway Department of Philadelphia.

## GRADING OF STUDENTS.

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STUDENTS are divided, according to their grades, into five sections, A, B, C, D, E. Each student is notified of the section to which he has been assigned, but the grades are not published. Section E is composed of those who cannot be advanced to the next higher class, or receive their Bachelor's degree. Daily recitations, hour examinations, and final examinations are all used as elements in determining the standing of a student.

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## ADVANCED DEGREES.

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Graduates of three years' standing may take the degree of MASTER OF ARTS or of MASTER OF SCIENCE, by passing an examination on some literary or scientific course of study which shall receive the approbation of the Faculty.

Candidates who are examined may also be required to hand in dissertations on topics in the field of study which they have specially investigated.

*Resident* Graduates, who have completed an adequate course of study, may be admitted to an examination for a second degree at the expiration of one or two years.

Notice of application for examination must be given to the President two months before Commencement. The examination for non-residents will be held during the last week in the Fifth month, and in no case at a later date. The fee for the Master's Diploma is Twenty Dollars, to be paid in all cases before the 1st of the Sixth month.

Adequate courses of study for the Master's degree will be arranged on application to the President.

## EXPENSES.

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The usual charge for Tuition, Board, and Room Rent in Barclay Hall is five hundred dollars (\$500) a year.

A few students will be taken in larger rooms for five hundred and twenty-five dollars (\$525) a year, and a few in Founders' Hall, for four hundred dollars (\$400) a year.

NOTE.—The rent of rooms includes steam heat, electric light, necessary bed-room furniture, and care of rooms. Students will supply their study-room furniture, also towels and table napkins.

The charge for tuition is one hundred and fifty dollars (\$150) a year; for tuition and mid-day meal, two hundred dollars (200) a year.

Books and stationery, will, at the option of the student, be supplied by the college and charged on the half-yearly bills. Materials consumed and breakage in the laboratories are also charged.

Bills for Board and Tuition are payable one-half at the beginning and one-half at the middle of the college year.

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## SCHOLARSHIPS.

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I. Senior Scholarships. Four Scholarships of the annual value of \$300 each are offered to graduates nominated by the Faculties of Earlham, Penn, Wilmington, and Guilford Colleges.

The charges for Board and Tuition are \$400 or \$500 per year according to the location of the room. Rooms will be reserved at the former rate till Fifth month 1st of each year for the recipients of Senior Scholarships in the succeeding year.

II. I. V. Williamson Scholarships. Three Scholarships covering all expenses of Board and Tuition.

III. Richard T. Jones Scholarship. One Scholarship covering all expenses of Board and Tuition.

II. and III. will be so arranged that one only will usually be vacated each year and awarded to a Freshman.

IV. Corporation Scholarships. Sixteen Scholarships of the annual value of \$300 each will be given by competitive examination open to all applicants for admission to the Freshman Class.

Details of the examination will be given on application to the President.

V. Foundation Scholarships. Eight Scholarships of the annual value of \$200 each. Three of these may be given on the nomination of the Faculty of Westtown Boarding School.

VI. Edward Yarnall Scholarship. One Scholarship of the annual value of \$200. Open only to Friends.

VII. Thomas P. Cope Scholarship. One Scholarship of the annual value of \$200. Open only to Friends who intend to teach.

VIII. Sarah Marshall Scholarship. One Scholarship of the annual value of \$150.

IX. Mary M. Johnson Scholarship. One Scholarship of the annual value of \$150.

X. Isaac T. Johnson Scholarship. One Scholarship of the annual value of \$200 given on the nomination of Friends' School, 4th and West Sts., Wilmington, Del.

XI. Day Scholarships. Eight Scholarships of the annual value of \$100 each.

XII. One Scholarship of the annual value of \$150 which may be given on the nomination of the Lower Merion High School.

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All Scholarships are given for one year only but may be renewed by the College (except I., X. and XII.) if the conduct and standing of the recipient be satisfactory.

I., X. and XII., will thus be vacated yearly, and about one-fourth of the others.

Except XI. and XII., all Scholarships involve residence at the College.

All applicants must present satisfactory proof of good preparation and of high character.



## THE HAVERFORD FELLOWSHIP.

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This fellowship of the annual value of \$500, may be awarded by the Faculty to the best qualified applicant from the Senior Class. He is required to spend the succeeding year engaged in study at some American or foreign university approved by the Faculty.

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## PRIZES.

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### ALUMNI PRIZE FOR COMPOSITION AND ORATORY.

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The Association of the Alumni, in the year 1875, established an ANNUAL PRIZE, either of a Gold Medal or of an equivalent value in books with a Bronze Medal, for excellence in Composition and Oratory.

The following are the rules governing the competition :

I. The Alumni Medal is offered yearly to the competition of the members of the Senior and Junior Classes, as a prize for the best delivered oration prepared therefor.

II. Three or five Judges shall be appointed from year to year by the Alumni Committee, who shall hear publicly, in Alumni Hall, all competitors who may be qualified to appear.

III. No oration shall occupy in delivery more than fifteen minutes.

IV. In making their award, while due weight is given to the literary merits of the oration, the Judges are to consider the prizes as offered to encourage more especially the attainment of excellence in elocution.

V. The Judges shall have the right to withhold the prize if the elocution and the literary merits of the oration fall below a suitable standard of excellence.

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### THE EVERETT SOCIETY (SILVER) MEDAL.

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The medal is offered by the founder to the competition of the members of the two lower classes, in loving memory of the old Everett Society, which no longer preserves its separate existence.

Orations shall not exceed ten minutes in delivery, shall be prepared considerably in advance and perfectly committed to memory.

It is desired in addition, that a record should be kept of each year's contest. The precise rules governing each contest will be announced some time in advance of preparation for such contest.

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#### PRIZES FOR SYSTEMATIC READING.

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Two prizes, of \$60 and \$40 respectively, will be given to those members of the Junior Class who, having creditably pursued their regular studies and paid proper attention to physical culture, shall have carried on the most profitable course of reading of standard authors during the Sophomore and Junior years.

The direction of the work and the decision as to the award of the prizes shall be in the hands of a committee consisting of the President, the Librarian and the Professor of English.

Either or both of these prizes may be omitted if, in the judgment of the committee, the work does not justify the award.

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#### THE CLASS OF 1870 PRIZE IN ENGLISH COMPOSITION.

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This prize, of the value of \$50, is offered under the following conditions: The competitors shall be members of either the Senior or Junior Class. The papers should not exceed the limits of an ordinary short essay, and should excel as much in harmonious proportion of material as in particular points of style. The standard of merit is excellence in composition, with chief regard to subject-matter, originality, and a clear, forcible, and correct style. Unless definite subjects should be announced, the writers are at liberty to choose their own; but such a choice must be submitted to the approval of the President of the College. All essays must be submitted, by Fifth-month 1st, to a committee to be appointed by the Class of 1870. The Prize is to be announced on the night of the Alumni oration and at Commencement, and is to be recorded in the College Catalogue.

## THE CLASS OF 1896 PRIZES IN LATIN AND MATHEMATICS.

These are two prizes of \$10 each. They will be awarded at the end of the Sophomore year, for proficiency in Latin and Mathematics respectively.

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## PHILIP C. GARRETT PRIZES IN LATIN AND MATHEMATICS.

These are two prizes of \$10 each. One will be awarded to the most proficient student in Mathematics at the end of the Senior year. The other to the most proficient student in Latin at the end of the Freshman year.

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## HONORS.

For the purpose of honors, studies are divided as follows :

- I. Ancient Languages and Literature.
- II. Modern Languages and Literature.
- III. Mathematics, Physics, and Astronomy.
- IV. Chemistry and Biology.
- V. History, Philosophy, and Political Science.
- VI. Latin and French.
- VII. Chemistry and Physics.

Candidates for Honors shall elect from one group at least five hours per week during the Junior year, and eight hours per week during the Senior year, and shall make their announcements of candidacy at the beginning of the Junior year.

*Highest Honors* and *Honors* may be given, dependent on the judgment of the professors immediately interested. They will base their decision on special examinations, or the character of the daily work.

Honors shall be announced at Commencement and in the succeeding catalogue.

## LIBRARY.

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LIBRARIAN, Professor Allen C. Thomas ; ASSISTANT, Ottis Earl Mendenhall.

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The number of bound volumes in the Library of Haverford College is 33,401. Numerous American and European periodicals, scientific and literary, are taken by the Library.

About \$1,800 yearly are expended for the purchase of books and periodicals.

The Library is open as a reading-room from 8.30 A. M. to 6 P. M., during which time the volumes in the alcoves may be freely consulted. The Librarian devotes stated hours each week to the purpose of assisting and directing students in the reading, and in the intelligent use of books of reference and of authorities. He also arranges courses of reading.

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## CHEMICAL LABORATORY.

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DIRECTOR, Dr. Lyman B. Hall.

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The Laboratory Work comprises elementary experiments in General Chemistry ; an extended study of the more important elements and their compounds ; qualitative and quantitative analysis ; the preparation of pure compounds ; and experimental work illustrating chemical laws and theories.

Students may substitute for the last two years of the Scientific Course a special course in Chemistry, embracing both theory and laboratory work.

Opportunity is given for elementary or advanced special work, with ample facilities for its prosecution.

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## PHYSICAL LABORATORY.

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DIRECTOR, Prof. Levi T. Edwards.

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The Physical Laboratory occupies five rooms, and is well equipped for work in the different departments of Physics. The

apparatus has been selected with especial reference to quantitative rather than qualitative work, and includes in every department exact standards. The department of electricity has been exceptionally well equipped.

The students are instructed in the accurate measurement of various physical quantities in mechanics, heat, light, and electricity. They are also assigned a certain amount of qualitative work leading up to a more intimate knowledge of the properties of matter.

The work of the more advanced students is supplemented by reading in the foreign and domestic scientific journals which are accessible in the Library.

A number of valuable standard instruments in electricity have recently been purchased.

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## BIOLOGICAL LABORATORY.

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DIRECTOR, Dr. H. S. Pratt.

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The Biological Laboratory is well equipped with reagents and with microscopes and all the other necessary apparatus and appliances. It contains also about two hundred recent biological works and zoological and botanical charts.

The work consists of courses in General Zoology and Botany, followed by thorough courses in invertebrate and vertebrate morphology, histology and embryology.

Students who have completed the courses prescribed may elect advanced work or carry on special investigation.

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## MUSEUM.

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CURATOR, Dr. H. S. Pratt.

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The Museum contains a large collection of native and foreign birds and birds' eggs; a conchological collection; a collection of fossils; and a large collection of rocks and minerals. It contains also an herbarium in which about 3000 species are represented.

## MECHANICAL LABORATORY.

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DIRECTOR, Prof. Levi T. Edwards.

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The Engineering Department occupies a new stone building, three stories high, erected during the summer of 1896. The entire equipment is new and of the best quality. The Wood-working Department affords accommodation for fourteen students at one time. The benches are provided with quick action vises and a complete set of carpenter's tools for each student. This shop contains a 36" band saw and two wood lathes. The Iron-working Department contains a 24" x 12' Blaisdell engine-lathe and two smaller lathes of the same make; a 24" x 24" x 6' planer; a Gould & Eberhardt 16" shaper; two drill-presses; several vises and complete sets of machinists tools for bench work. Three steam-engines, two of which are tandem compounds directly coupled to 60 K. W. dynamos, together with indicators and electrical measuring instruments afford good opportunity for engine and dynamo testing. The third story of the building is devoted to drawing, and is a commodious and well-lighted room.

The instruction begins with a series of graded exercises, which teach accuracy in the use of tools and illustrate the principles of machine construction. This is followed by practice in the construction of parts of machinery and the building of complete machines.

The students, under the care of the Director, are taken from time to time to visit machine shops and engineering constructions in Philadelphia and vicinity.

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## ASTRONOMICAL OBSERVATORY.

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DIRECTOR, William H. Collins.

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THE HAVERFORD OBSERVATORY affords students the means of becoming familiar with the use of astronomical instruments,

and of acquiring, from actual observation, a practical acquaintance with Astronomy.

It contains two Equatorial Telescopes, one, by Clark, having an object-glass 10 inches in diameter, and one with an object-glass of  $8\frac{1}{4}$  inches, with filar micrometer and eye-pieces; a polarizing eye-piece; a Newtonian Reflector, with a silver-on-glass speculum of  $8\frac{1}{4}$  inches diameter; a Prism Spectroscope; a Meridian Transit Circle having a Telescope of  $3\frac{3}{4}$  inches aperture, with a circle at each end of the axis 26 inches in diameter; a Zenith Instrument of  $1\frac{3}{4}$  inches aperture, with a micrometer; two Sidereal Clocks, one with mercurial compensation, the other used to connect with a Bond's Magnetic Chronograph.

The latitude of the Observatory is  $40^{\circ} 0' 40''$  N.; its longitude, 6 minutes 59.4 seconds east from Washington.

A Special Course in Astronomy is offered to amateurs and teachers. The requisites for the course and the fees charged will depend on the work which the applicant desires to perform.

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## THE GYMNASIUM.

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DIRECTOR, James A. Babbitt.

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THE GYMNASIUM has been refitted with several improved gymnastic appliances, and now includes in its equipment rowing, sculling, and wrist machines, chest weights, striking-bag and drum, and the necessary apparatus for the gymnastic game of basket-ball.

The Director gives systematic instruction, based upon careful physical examination. An extensive addition for this purpose has been made in the anthropometric equipment.

Required work begins Twelfth month 1st and ends Fourth month 1st, and occupies four periods each week.

It is arranged in two courses, each occupying one winter.

Students entering the Freshman class are required to take the two courses, one each year; and divisions for advanced work are

formed of those giving evidence of previous systematic gnasium drill.

Students entering the Sophomore class are required to complete one course with a similar privilege of advanced standing.

While the work is required of the two lower classes only, it is elective for the upper classes, and it is expected that the majority of their members will take advantage of the advanced courses arranged.

A special course has been inaugurated the present session, based upon and closely following the rules of the Swedish Educational System. This physical course is elective to all classes and occupies three periods per week.

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## SOCIETIES.

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THE LOGANIAN SOCIETY was established by the Officers and students in 1834.

The EVERETT-ATHENÆUM is a literary society of the students.

A flourishing branch of the YOUNG MEN'S CHRISTIAN ASSOCIATION exists at the College.

The following are some of the subjects discussed at the meetings of the Loganian Society, 1896-97.

*Resolved*, that four years at a small college are more desirable than an undergraduate course at a large university as a preparation for active life.

*Resolved*, that the United States ought to construct and operate the Nicaragua Canal.

*Resolved*, that the United States should actively interfere to prevent further massacres in Armenia.

*Resolved*, that the United States Government is likely to endure.

*Resolved*, that the execution of Charles I. was justifiable.

*Resolved*, that a student should not be allowed to graduate at Haverford in three years.

*Resolved*, that it would be expedient for the United States Government to ratify the Arbitration Treaty as proposed by Secretary Olney.

*Resolved*, that labor organizations promote the best interests of the workingmen.



## DEGREES, PRIZES AND HONORS GRANTED IN 1897.

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At the Commencement in 1897, Degrees were granted after examinations to the following graduates :

### BACHELOR OF ARTS.

RICHARD CADBURY BROWN,	FRANCIS NORTON MAXFIELD,
MORTON PENNOCK DARLINGTON,	ROSWELL CHEYNEY MCCREA,
ELLIOT FIELD,	OTTIS EARL MENDENHALL,
VINCENT GILPIN,	WARREN BROWN RODNEY,
BENJAMIN ROSE HOFFMAN,	EDWARD THOMAS,
CHARLES HENRY HOWSON,	HENRY ALVA WHITE,
JOHN ELIAS HUME.	

### BACHELOR OF SCIENCE.

WILLIAM JOHN BURNS,	GEORGE MARTIN PALMER,
MORRIS BURGESS DEAN,	CHARLES GIBBONS TATNALL,
FRANK HUGHES DETWILER,	WILLIAM JORDAN TAYLOR,
FRANCIS BRINTON JACOBS,	FRANK WILLIAM THACHER.

### MASTER OF ARTS.

WILLIAM OTIS BEAL, Astro- nomy.	THOMAS HARVEY HAINES, Phil- osophy.
JOHN ALLEN DECOU, English.	JOHN ASHBY LESTER, English.
JONATHAN DICKINSON, JR., New Testament Greek.	PAUL TASSO TERRELL, Mathema- tics.
FRANK WHITTIER ELSE, Amer- ican History.	HOMER JEPHTHA WEBSTER, Amer- ican History.

## PRIZES.

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The Alumni Prize in Composition and Oratory (\$50) was awarded to

ELLIOT FIELD, (1897).

The Everett Society Medal for Oratory for Sophomores and Freshmen, was awarded to

LINDEN HARRIS WHITE, (1900).

The John B. Garrett Prizes for Systematic Reading for Juniors was awarded to

First Prize, (\$60.00).....Not Awarded.

Second Prize, (\$40.00).....JOSEPH W. TAYLOR, (1898).

The Class of 1870 Prize for Composition was not awarded.

The Class of 1896 Prizes in Latin and Mathematics for Sophomores and Freshmen were awarded to

Latin, (\$10.00).

MORRIS M. LEE.

LOUIS R. WILSON.

With honorable mention of JOSEPH P. MORRIS.

Mathematics, (\$10.00).....JOHN HOWARD REDFIELD.

With honorable mention of F. ALGERNON EVANS.

The Philip C. Garrett Prizes were awarded to

For Senior Mathematics, (\$10.00).....EDWARD THOMAS.

For Freshman Latin, (\$10.00).....HENRY S. DRINKER, JR.

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## HONORS.

### GENERAL HONORS.

MORTON PENNOCK DARLINGTON,

VINCENT GILPIN.

Honors in Political Economy,.....ROSWELL CHEYNEY MCCREA.

Honors in Modern Languages,.....MORTON PENNOCK DARLINGTON.

Honors in Physics,.....EDWARD THOMAS.

# LIST OF GRADUATES AND HONORARY DEGREES.

(Degrees conferred by other institutions are indicated by *italics*.)

THE ONLY DEGREE GRANTED ON GRADUATION BEFORE 1877 WAS THAT  
OF BACHELOR OF ARTS.

## GRADUATES.

1836

\*Thomas F. Cock, *M.D.*, *LL.D.*, \*1896  
Joseph Walton

1837

\*William C. Longstreth, \*1881  
\*David C. Murray, \*1885  
Lindley Murray  
\*Benjamin V. Marsh, \*1882  
\*Joseph L. Pennock, \*1870  
Robert B. Parsons  
\*Charles L. Sharpless, \*1882  
\*Lloyd P. Smith, A.M., \*1886  
\*B. Wyatt Wistar, \*1869

1838

\*James V. Emlen, *M.D.*, \*1880  
\*John Elliott, \*1893

1839

\*Frederic Collins, \*1892  
Thomas P. Cope  
\*Henry Hartshorne, *M. D.*, A. M.,  
*LL.D.*, \*1897  
\*Nereus Mendenhall, *M. D.*, \*1893  
Richard Randolph, Jr., *M. D.*  
\*Charles Taber, \*1887

1840

\*Joseph Howell, \*1889  
Anthony M. Kimber  
\*Henry H. G. Sharpless, \*1870  
\*John R. Winslow, *M. D.*, \*1866

1841

\*Richard H. Lawrence, \*1847  
\*James P. Perot, \*1872  
\*Elias A. White, \*1866

1842

Robert Bowne  
\*Richard Cadbury, \*1897  
\*William S. Hilles, \*1876  
\*Thomas Kimber, Jr., *L.T.T.D.*, \*1890  
\*James J. Levick, *M. D.*, A. M.,  
\*1893  
Edmund Rodman, A. M.  
Thomas R. Rodman, A. B.  
Benjamin R. Smith  
Augustus Taber  
\*Caleb Winslow, *M. D.*, \*1895

1843

Robert B. Howland  
Francis White  
\*William D. Stroud, *M. D.*, \*1883

1844

Evan T. Ellis  
\*Robert B. Haines, \*1895  
Isaac Hartshorne

1845

\*Edmund A. Crenshaw, \*1894  
\*Robert Pearsall, \*1849

1849

Albert K. Smiley, A. M.  
Alfred H. Smiley, A. M.

1851

Joseph L. Bailey  
Philip C. Garrett  
Thomas J. Levick  
Franklin E. Paige, A. M.

Zaccheus Test, *M. D.*, A. M.  
 \*James C. Thomas, *M. D.*, A. M., \*1897  
 Richard Wood

1852

\*Dougan Clark, *M. D.*, \*1896  
 Lewis N. Hopkins  
 William L. Kinsman  
 William E. Newhall  
 \*James Whitall, \*1896

1853

William B. Morgan, A. M.  
 \*William H. Pancoast, *M. D.*, A. M.,  
 \*1897

1854

Frederick Arthur, Jr.  
 John W. Cadbury  
 John B. Garrett  
 David Scull

1855

\*Samuel Bettie, \*1859  
 John R. Hubbard, A. M.

1856

Bartholomew W. Beesley  
 Joel Cadbury, Jr.  
 Jonathan J. Comfort, *M. D.*  
 \*James M. Walton, \*1874  
 Edward R. Wood, A. M.

1857

Jesse S. Cheyney, A. M.  
 \*Cyrus Mendenhall, \*1858  
 Stephen Wood

1858

\*Thomas H. Burgess, \*1893  
 Thomas Clark  
 Daniel W. Hunt  
 \*Samuel T. Satterthwaite, \*1865  
 William G. Tyler  
 Thomas Wistar, A. M., *M. D.*  
 Ellis H. Yarnall, *LL.B.*

1859

\*Richard W. Chase, \*1865  
 James R. Magee  
 \*Richard C. Paxson, \*1864  
 \*Edward Rhoads, *M. D.*, \*1871  
 Edward C. Sampson

\*George Sampson, \*1872  
 Abram Sharpless, *M. D.*  
 Benjamin H. Smith

1860

\*Lindley M. Clark, \*1891  
 \*William B. Corbit, *M. D.*, \*1872  
 \*William M. Corlies, \*1881  
 Cyrus Lindley  
 Theodore H. Morris  
 Frederick W. Morris  
 Richard Pancoast  
 \*John W. Pinkham, *M. D.*, \*1894  
 Francis Richardson  
 Clement L. Smith, A. M., *LL.D.*  
 James Tyson, *M. D.*, A. M.  
 Silas A. Underhill, *LL.B.*

1861

Edward Bettie, Jr.  
 \*Henry Bettie, \*1886  
 \*Charles Bettie, 1883  
 William B. Broomall  
 Charles H. Jones  
 \*Thomas W. Lamb, A. M., *M. D.*,  
 \*1878  
 William N. Potts  
 Jehu H. Stuart, A. M., *M. D.*  
 John C. Thomas

1862

Henry T. Coates, A. M.  
 \*Samuel A. Hadley, \*1864  
 Horace G. Lippincott  
 George B. Mellor  
 Horace Williams, *M. D.*  
 \*Isaac F. Wood, \*1895

1863

Thomas J. Battey, A. M.  
 \*George M. Coates, Jr., A. M., \*1894  
 William M. Coates  
 \*Richard T. Jones, \*1869  
 William H. Morris  
 Joseph G. Pinkham, *M. D.*, A. M.

1864

\*Franklin Angell, A. M., \*1882  
 \*William Ashbridge, *M. D.*, \*1884  
 Edward H. Coates  
 Howard M. Cooper, A. M.  
 Albin Garrett

Morris Longstreth, *A. B., M. D.,*  
A. M.

Albert Pancoast

Charles Roberts

\*E. Pope Sampson, \* 1893

\*Edward L. Scull, \* 1884

\*Randolph Wood, \* 1876

1865

John R. Bringhurst

\*Edward T. Brown, \* 1892

James A. Chase

Joseph M. Downing

Arthur Haviland

\*David H. Nichols, \* 1865

Henry W. Sharpless

\*George Smith, Jr., \* 1872

Robert B. Taber, A. M.

Allen C. Thomas, A. M.

Benjamin A. Vail

Caleb Cresson Wistar

1866

A. Marshall Elliott, A. M.

Benjamin E. Valentine, *LL. B.*

1867

\*John Ashbridge, \* 1881

George Ashbridge, A. M., *LL. B.*

William P. Clark, A. M., *LL. B.*

Samuel C. Collins, A. M.

Nathaniel B. Crenshaw

Charles H. Darlington, A. M.

\*William T. Dorsey, *M. D.*, \* 1870

B. Franklin Eshleman

Richard M. Jones, A. M., *LL. D.*

\*Charles W. Sharpless, \* 1889

Walter Wood

1868

Edward H. Cook

\*Alexis T. Cope, \* 1883

Benjamin C. Satterthwaite

Louis Starr, *M. D.*

S. Finley Tomlinson

Joseph H. Wills, A. M., *M. D.*

1869

John H. Congdon

Henry Cope, A. M.

Ludovic Estes, *A. M., Ph. D.*

\*Henry Evaul, A. M., \* 1877

\*William B. Kaighn, \* 1876

Pendleton King, A. M.

William H. Randolph

Edward B. Taylor, *M. C. E.*

William S. Taylor

James G. Whitlock

Walter Wood

Henry Wood, *Ph. D.*

1870

J. Stuart Brown

John E. Carey

Alford G. Coale

Howard Comfort

T. Allen Hilles

William H. Hubbard, *M. D.*

\*Thomas K. Longstreth, A. M.,

\* 1883

Oliver G. Owen, A. M.

Charles E. Pratt, A. M.

David F. Rose

\*John D. Steele, \* 1886

Charles Wood, A. M.

Stuart Wood, *Ph. D.*

1871

Henry G. Brown

\*William P. Evans, \* 1893

John S. Garrigues

Reuben Haines, A. M.

William H. Haines

Joseph Hartshorne

Jesse F. Hoskins

Walter T. Moore

Ellis B. Reeves

Alfred R. Roberts, *C. E.*

Charles S. Taylor

Edward D. Thurston

Randolph Winslow, *M. D., A. M.*

1872

Richard Ashbridge, *M. D.*

Richard T. Cadbury, *A. B., A. M.*

James Carey, Jr., *LL. B.*

Thomas S. Downing, Jr.

Walter Erben

Thomas Roland Estes

John E. Forsythe

William H. Gibbons, A. M.

Francis B. Gummere, *A. B., A.*

*M., Ph. D.*

Casper William Haines, A. M.,

*C. E.*

Abram Francis Huston

\*Marmaduke Cope Kimber, A. M.,

\* 1878

William M. Longstreth

Richard H. Thomas, *M. D.*

1873

James C. Comfort  
 Thomas P. Cope, Jr.  
 George W. Emlen  
 Joseph M. Fox  
 Henry C. Haines  
 Benjamin H. Lowry, A. M.  
 Alden Sampson, A. M., *A. B.*, *A. M.*  
 \*Julius L. Tomlinson, A. M., \* 1890

1874

Edward P. Allinson, A. M.  
 John G. Bullock  
 James Emlen  
 Charles R. Hartshorne, *LL. B.*  
 Samuel E. Hilles  
 John B. Jones  
 \*Mahlon Kirkbride, \* 1889  
 Theophilus P. Price  
 James B. Thompson  
 Joseph Trotter

1875

Edward K. Bispham  
 Alonzo Brown, A. M.  
 J. Franklin Davis, A. M.  
 Charles E. Haines  
 William Hunt, Jr.  
 Charles J. Huston  
 Harold P. Newlin  
 Walter W. Pharo  
 Charles E. Tebbetts  
 Miles White, Jr.

1876

Francis G. Allinson, A. M., *Ph. D.*  
 David S. Bispham  
 Reuben Colton  
 Henry W. Dudley  
 Seth K. Gifford, A. M.  
 L. Lyndon Hobbs, A. M.  
 Richard H. Holme  
 \*Thomas William Kimber, \* 1885  
 Charles A. Longstreth  
 J. Whitall Nicholson  
 Percival Roberts, Jr.  
 Frank H. Taylor  
 Howard G. Taylor  
 \*Lewis A. Taylor, \* 1881

1877

A. B.

Isaac W. Anderson  
 Frederic L. Bailly

Isaac Forsythe  
 James D. Krider  
 George G. Mercer, *LL. M.*, *J. C. D.*  
 Wilson Townsend

S. B.

William F. Smith

1878

A. B.

Henry Bailly, *A. B.*, *A. M.*  
 Albert L. Bailly  
 Francis K. Carey, *LL. B.*, A. M.  
 Edward T. Comfort  
 Charles S. Crosman, *A. B.*, *LL. B.*,  
 Samuel Hill, *A. B.*  
 Lindley M. H. Reynolds  
 Daniel Smiley, Jr.  
 Henry L. Taylor, A. M., *M. D.*  
 John M. W. Thomas  
 George W. White

S. B.

Jonathan Eldridge  
 Edward Forsythe  
 Cyrus P. Frazier, *A. B.*  
 Robert B. Haines, Jr.  
 Henry N. Stokes, *Ph. D.*

1879

A. B.

Samuel Bispham, Jr.  
 \*Edward Gibbons, \* 1891  
 John H. Gifford, *M. D.*  
 Francis Henderson, *LL. B.*  
 William C. Lowry  
 John B. Newkirk  
 John E. Sheppard, Jr., *M. D.*

1880

A. B.

Charles F. Brédé, A. M.  
 Charles E. Cox, *A. M.*  
 Josiah P. Edwards  
 James L. Lynch  
 Samuel Mason, Jr.  
 William F. Perry  
 Joseph Rhoads, Jr., A. M.

S. B.

William Bishop  
 Alexander P. Corbit  
 Charles E. Gause, Jr.  
 Edward M. Jones

1881

A. B.

William A. Blair, *A. M.*  
 A. Morris Carey  
 Levi T. Edwards, *A. M.*  
 Edward Y. Hartshorne  
 Isaac T. Johnson, *A. M.*  
 Edwin O. Kennard  
 Jesse H. Moore  
 William E. Page  
 Walter F. Price, *A. M.*, *A. M.*  
 Thomas N. Winslow  
 John C. Winston

S. B.

Walter Brinton  
 William H. Collins, *A. M.*  
 Joseph Horace Cook  
 Davis H. Forsythe  
 Albanus L. Smith

1882

A. B.

George A. Barton, *A. M.*, *A. M.*,  
*Ph. D.*  
 Isaac M. Cox  
 Richard B. Hazard  
 Wilmot R. Jones  
 \*Wilmer P. Leeds, \*1885  
 J. Henley Morgan  
 Edward Randolph

S. B.

John E. Coffin  
 Daniel Corbit  
 George L. Crosman  
 Frederick D. Jones  
 T. Chalkey Palmer  
 Lindley M. Winston

1883

A. B.

John Blanchard, *LL. B.*  
 Frank E. Briggs  
 George H. Evans  
 Francis B. Stuart  
 Bond V. Thomas  
 Thos. K. Worthington, *LL. B.*,  
*Ph. D.*

S. B.

William L. Bailly  
 Stephen W. Collins, *LL. B.*

D. William Edwards

William E. Scull

\*Samuel B. Shoemaker, *M.D.*, \*1893

John D. Spruance

W. Alpheus White

Charles H. Whitney

Louis B. Whitney

1884

A. B.

John Henry Allen, *A. M.*  
 Orren William Bates  
 Thomas Herbert Chase  
 William J. Haines  
 Arthur D. Hall  
 Charles R. Jacob  
 Alfred Percival Smith, *LL. B.*

S. B.

Louis T. Hill  
 Walter L. Moore  
 George Vaux, Jr., *LL. B.*

L. B.

Francis A. White

1885

A. B.

Samuel Bettie  
 Enos L. Doan  
 William T. Ferris  
 William S. Hilles  
 William T. Hussey  
 Arthur W. Jones, *A. M.*  
 Rufus M. Jones, *A. M.*  
 Joseph L. Markley, *A. M.*, *A. M.*,  
*Ph. D.*  
 Marriott C. Morris  
 Augustus T. Murray, *Ph. D.*  
 Augustus H. Reeve  
 William F. Reeve  
 Isaac Sutton, *A. M.*, *A. M.*  
 Elias H. White, *LL. B.*  
 William F. Wickersham, *A. M.*

S. B.

Charles W. Bailly  
 John J. Blair  
 Thomas Newlin, *A. M.*  
 Theodore W. Richards, *A. M.*,  
*Ph. D.*  
 \*Matthew T. Wilson, \*1891

1886

A. B.

Jonathan Dickinson, Jr., A. M.  
 Alexander H. Scott  
 Horace E. Smith  
 Edward D. Wadsworth, LL. B.

S. B.

\*Thomas W. Betts, \*1893  
 Guy R. Johnson  
 William S. McFarland  
 \*Israel Morris, Jr., \*1891  
 William P. Morris  
 Alfred M. Underhill, Jr.  
 Wilfred W. White

1887

A. B.

J. Howe Adams, M. D.  
 Edward B. Cassatt  
 William H. Futrell, LL. B.  
 Alfred C. Garrett, A. B., A. M.,  
*Ph. D.*  
 Henry H. Goddard, A. M.  
 Willis Hatfield Hazard, A. M., *Ph. D.*  
 Barker Newhall, A. M., *Ph. D.*  
 Jesse E. Philips, Jr., A. M.  
 Henry W. Stokes  
 Frederic H. Strawbridge  
 Richard J. White  
 \*George B. Wood, \*1894  
 William C. Wood

S. B.

\*Arthur H. Baily, \*1880  
 Charles H. Bedell  
 Allen B. Clement, A. M.  
 Horace Y. Evans, Jr.  
 Hugh Lesley  
 \*William W. Trimble, \*1891

B. E.

P. Hollingsworth Morris

1888

A. B.

E. Morris Cox  
 Howell S. England, A. M.  
 Allison W. Slocum, A. M., *Ph. D.*  
 Martin B. Stubbs, A. M.

S. B.

Charles H. Battey  
 John C. Corbit, Jr.  
 Morris E. Leeds  
 William Draper Lewis, LL. B.  
*Ph. D.*  
 Henry V. Gummere, A. M., A. M.  
 Francis C. Hartshorne, A. M.,  
 LL. B.  
 Joseph T. Hilles  
 George B. Roberts  
 Joseph W. Sharp, Jr.

B. E.

Lawrence P. Beidelman  
 Joseph E. Johnson, Jr., M. E.  
 Frederick W. Morris, Jr.  
 Richard J. Morris

1889

A. B.

Robert C. Baner  
 Thomas F. Branson, M. D.  
 Charles H. Burr, Jr., A. M., LL. B.  
 Thomas Evans  
 Warner H. Fite, *Ph. D.*  
 Warren C. Goodwin  
 Victor M. Haughton  
 Franklin B. Kirkbride  
 Daniel C. Lewis  
 Lawrence J. Morris  
 William F. Overman  
 Frank W. Pierson, A. M.  
 Samuel Prioleau Ravenel, Jr.,  
 LL. B.

Walter George Reade  
 Lindley M. Stevens, A. M.  
 John Stoddell Stokes  
 \*Layton W. Todhunter, \*1889  
 Frederick N. Vail, A. M.  
 Gilbert C. Wood

S. B.

William R. Dutton, A. M., M. D.  
 Arthur N. Leeds, A. M.  
 J. Henry Painter  
 David J. Rainhardt  
 Frank E. Thompson, A. M.

B. E.

Herbert Morris

1890

A. B.

Edward M. Angell, LL. B.  
 James Stuart Auchincloss



William G. Audenried, Jr.  
 Henry R. Bringham, Jr.  
 Charles T. Cottrell, A. M., *LL. B.*  
 Guy H. Davies  
 Robert E. Fox  
 Henry L. Gilbert, A. M., *Ph. D.*  
 William G. Jenkins  
 Thomas S. Kirkbride, Jr., *M. D.*  
 Jonathan M. Steere, A. M.

## S. B.

Thomas Amory Coffin  
 Percy S. Darlington  
 William M. Guilford, Jr.,  
 John N. Guss  
 Edwin J. Haley, A. M.  
 Robert R. Tatnall, A. M., *Ph. D.*  
 Dilworth P. Hibberd, A. M., *LL. D.*  
 Alfred C. Tevis

## B. E.

John F. Taylor Lewis  
 Edward R. Longstreth  
 William Percy Simpson  
 Ernest Foster Walton

1891

## A. B.

Harry Alger  
 David H. Blair  
 Henry A. Todd

## S. B.

William W. Handy  
 Arthur Hoopes  
 John Wetherill Hutton, A. M.  
 David L. Mekeel, M. E.  
 John Stokes Morris, A. M.  
 George Thomas, 3d

1892

## A. B.

Richard Brinton  
 I. Harvey Brumbaugh, *A. B.*  
 Benjamin Cadbury, A. M.  
 Joseph Henry Dennis  
 Warren A. Detwiler  
 Rufus Hacker Hall  
 Walter Morris Hart, A. M.  
 Gilbert Joseph Palen, *M. D.*  
 Ralph Warren Stone  
 W. Nelson Loflin West, *LL. B.*  
 Stanley Rhoads Yarnall, A. M.

## S. B.

Augustine W. Blair, A. M.  
 Egbert Snell Cary  
 Minturn Post Collins  
 Charles Gilpin Cook, A. M.  
 William Pearson Jenks  
 Franklin McAllister  
 John Wallingford Muir  
 William Hopkins Nicholson, Jr.  
 William Ellis Shipley  
 Joseph Remington Wood, *Ph. G.*

1893

## A. B.

Leslie Adelbert Bailey, A. M.  
 \*John Farnum Brown,\* 1894  
 Wilbur Albert Estes  
 Walter Winchip Haviland  
 Clarence Gilbert Hoag, *A. B.*  
 Carroll Brinton Jacobs  
 George Lindley Jones  
 Charles Osborne  
 Charles James Rhoads  
 Eugene M. Wescott  
 \*Franklin Whittall,\* 1894  
 Gifford King Wright

## S. B.

Francis F. Davis, A. M.  
 Arthur Villiers Morton  
 John Mickle Okie  
 Edward Rhoads  
 John Roberts  
 Barton Sensenig  
 William Sansoni Vaux, Jr.  
 Edward Woolman

1894

## A. B.

George A. Beyerle  
 Charles Collins  
 William Wistar Comfort, *A. B.*,  
*A. M.*  
 John Allen DeCou, *A. B.*, *A. M.*  
 Clifford Bailey Farr  
 John Paul Haughton  
 James Edward Hughes  
 Louis Jaquette Palmer  
 Frank Clayton Rex  
 Frederick Pearce Ristine  
 Francis Joseph Stokes  
 David Shearman Taber, Jr.  
 Parker Shortridge Williams

## S. B.

J. Henry Bartlett  
Oscar Marshall Chase, S. M.  
Henry Shoemaker Conard, A. M.  
George Brookhouse Dean  
Kane Stovell Green  
Anson Burlingame Harvey, A. M.  
Samuel Wheeler Morris  
Edward Entwisle Quimby  
Henry Wisner Scarborough, A. M.  
William Justus Strawbridge

1895

## A. B.

Samuel Bettie, Jr.  
Edmund Blanchard, Jr.  
Samuel Hulme Brown  
Frank Henry Conklin  
Charles Howland Cookman  
James Linton Engle  
Joseph Spragg Evans, Jr.  
Henry John Harris  
George Lippincott, *A. B.*

## S. B.

William Goodman, *A. B.*  
Arthur Moorhead Hay  
Erroll Baldwin Hay  
William Smedley Hilles  
John Bacon Leeds  
Charles Clifford Taylor  
Allen Curry Thomas, A. M.  
Henry Evan Thomas  
Walter Coates Webster

1896

## A. B.

Douglas Howe Adams  
George Raymond Allen  
Milton Clauser  
Arthur Fernandez Coca  
George Henry Deuell  
Thomas Harvey Haines, A. M.

John Ashby Lester, A. M.  
Paul D. I. Maier  
Joseph Henry Scattergood  
Levi Hollingsworth Wood

## S. B.

William Kite Alsop  
William Henry Bettie  
Samuel Kriebel Brecht  
Mark Brooke  
Albert Dempsey Hartley  
Charles Russell Hinchman  
John Quincy Hunsicker, Jr.  
Samuel Middleton  
Charles Dickens Nason  
Marshall Warren Way  
Homer Jephtha Webster, A. M.

1897

## A. B.

Richard Cadbury Brown  
Morton Pennock Darlington  
Elliot Field  
Vincent Gilpin  
Benjamin Rose Hoffman  
Charles Henry Howson  
John Elias Hume  
Francis Norton Maxfield  
Roswell Cheyney McCrea  
Ottis Earl Mendenhall  
Warren Brown Rodney  
Edward Thomas  
Henry Alva White

## S. B.

William John Burns  
Morris Burgess Dean  
Frank Hughes Detwiler  
Francis Brinton Jacobs  
George Martin Palmer  
Charles Gibbons Tatnall  
William Jordan Taylor  
Frank William Thacher

Whole number of graduates, 601.

The following graduate students have received Advanced Degrees, not having been undergraduates at Haverford :

1890

William B. Eaton, A. B., Wesleyan, 1889, A. M.  
Charles L. Michener, A. B., Penn, 1884, A. M.

Charles E. Pritchard, A. B., Earlham, 1889, A. M.  
 Robert W. Rogers, A. B., Johns Hopkins, 1887, Ph. D.  
 William C. Sayrs, A. B., Wilmington, 1889, A. M.  
 Charles E. Terrell, S. B., Wilmington, 1888, A. M.  
 Charles H. Thurber, Ph. B., Cornell, 1886, A. M.

1891

Lawrence M. Byers, A. B., Penn, 1890, A. M.  
 \*William H. Carroll, A. B., Wilmington, 1890, A. M., \*1897.  
 Myron F. Hill, A. B., Harvard, 1890, A. M.  
 Lucian M. Robinson, A. B., Harvard, 1882, A. M.

1892

Elmer A. Gifford, S. B., Penn, 1888, A. M.  
 Byron Charles Hubbard, S. B., Earlham, 1891, A. M.

1893

Irving Culver Johnson, S. B., Penn, 1892, A. M.  
 Leonard Charles Van Noppen, A. B., Guilford, 1890, B. L., Univ. N. C.  
 1892, A. M.

1894

Franklin A. Dakin, A. B., Harvard, 1892, A. M.  
 William W. Hastings, A. B. and A. M., Maryville, 1886 and 1892, A. M.  
 Mahlon Z. Kirk, S. B., Penn, 1893, A. M.  
 Arthur R. Spaid, A. B., Wilmington, 1893, A. M.  
 Edwin Mood Wilson, A. B., Guilford, 1892, A. B. Univ. N. C., 1893, A. M.

1895

Ira O. Kemble, S. B., Penn, 1894, A. M.  
 John Oscar Villars, S. B., Wilmington, 1894, A. M.  
 Roy Wilson White, S. B., Earlham, 1894, A. M.

1896

James Addison Babbitt, A. B., Yale, 1893, A. M.  
 Arthur Matthew Charles, S. B., Earlham, 1894, A. M.  
 Horace Thornburg Owen, A. B., Hamilton, 1895, A. M.  
 Luther Milton Hunt, S. B., Wilmington, 1895, A. M.  
 Clem Finney Patterson, Ph. B., Penn, 1895, A. M.  
 William W. Hastings, A. B. and A. M., Maryville, 1886, 1892, A. M.  
 Haverford, 1894, Ph. D.

1897

William Otis Beal, S. B., Earlham, 1896, A. M.  
 Frank Whittier Else, A. B., Penn, 1896, A. M.  
 Paul Tasso Terrell, S. B., Wilmington, 1896, A. M.

## HONORARY DEGREES.

	1858		1875
Hugh D. Vail, A. M.		*Samuel Alsop, Jr., A. M.,	*1888
	1859		1876
*Joseph W. Aldrich, A. M.,	*1865	*Pliny E. Chase, LL.D.,	*1886
	1860	*William H. Pancoast, A. M.,	*1897
*John G. Whittier, A. M.,	*1892		1877
	1864	*John J. Thomas, A. M.,	*1895
*Edward D. Cope, A. M.,	*1897		1879
	1867	Richard M. Jones, A. M.	
Joseph Moore, A. M.		Ellis Yarnall, A. M.	
	1872		1880
William Jacobs, A. M.		*Thomas Chase, LL.D.,	*1892
	1882	*Thomas Hughes, LL.D.,	*1896
Henry T. Coates, A. M.	*		1886
	1883	Edward H. Magill, LL.D.	
*Thomas F. Cock, LL.D.,	*1896		1887
James Wood, A. M.		*Thomas Kimber, LL.D.,	*1890
Henry N. Hoxie, A. M.			1888
	1884	Clement L. Smith, LL.D.	
*Joseph Parrish, A. M.,	*1893		1890
Elijah Cook, A. M.		Joseph John Mills, LL.D.	
	1885		1891
*Julius L. Tomlinson, A. M.,	*1890	Richard M. Jones, LL.D.	
Robert Howland Chase, A. M.			1895
		Henry Trimble, A. M.	

HOLDERS OF THE HAVERFORD  
GRADUATE SCHOLARSHIP.

1889-90,	{ CHARLES H. BURR,
	{ FRANK E. THOMPSON
1890-91,	DILWORTH P. HIBBERD
1891-92,	DAVID LANE MEKEEL
1892-93,	STANLEY RHOADS YARNALL
1893-94,	FRANCIS F. DAVIS
1894-95,	HENRY S. CONARD
1896-97,	JOHN A. LESTER
1897	ABOLISHED

HOLDER OF THE HAVERFORD  
FELLOWSHIP.

1897-98, JOHN ASHBY LESTER, at Harvard University.

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- No. 1.—The Library of the Convent of the Holy Sepulchre at Jerusalem ; J. Rendel Harris.  
 Work of Haverford College Observatory ; F. P. Leavenworth.  
 On the Geometry of a Nodal Circular Cubic ; Frank Morley.  
 On the Period of Rotation of the Sun ; Henry Crew.  
 On the Symbolic Use of the Colors Black and White in Germanic Tradition ; Francis B. Gummere.
- No. 2.—The Rest of the Words of Baruch ; J. Rendel Harris.  
 Some Essarhaddon Inscriptions ; Robert W. Rogers.
- No. 3.—The Passion of Perpetua ; J. Rendel Harris and Seth K. Gifford.  
 On Some Properties of the Triangle ; Frank Morley.
- No. 4.—On the Numerical Characteristics of a Cubic Curve ; Charlotte Angas Scott.  
 On the Caustic of the Epicycloid ; Frank Morley.  
 Sun Spot Observations ; H. V. Gummere and F. P. Leavenworth.  
 On a New Manuscript of the Four Gospels ; W. C. Braithwaite.  
 A Catalogue of Manuscripts (chiefly Oriental) in the Library of Haverford College ; Robert W. Rogers.  
 The Passion of Perpetua ; translated by Seth K. Gifford.  
 Specimens of Uncial Lectionaries from Mount Sinai ; J. Rendel Harris.
- No. 5.—The Diatessaron of Tatian, a Preliminary Study ; J. Rendel Harris.
- Nos. 6 and 7.—The Apology of Aristides ; J. Rendel Harris.
- No. 8.—The Codex Bezae ; J. Rendel Harris.
- No. 9.—Tha Codex Sangallensis ; J. Rendel Harris.  
 Unpublished Inscriptions of Esarhaddon ; Robert W. Rogers.
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 Stellar Parallax ; F. P. Leavenworth.  
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 Double Star and Sun Spot Observations ; F. P. Leavenworth and W. H. Collins.
- No. 12.—The Familists ; Allen C. Thomas.  
 On the Reading of "*τὸ πάσχα*" in John vi. 4 ; George A. Barton.  
 Our Lord's Quotation from the First Book of Maccabees ; Albert J. Edmunds.  
 Parallax of  $\theta$  Arg., 14320, and of  $\delta$  Equilei ; Francis P. Leavenworth.  
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For copies address

*The Secretary of Haverford College,*

*Haverford P. O., Pa.*



# HAVERFORD COLLEGE



1898-99

THE PRESIDENT desires to place a copy of the Annual Catalogue in the hands of every alumnus and member of the corporation. It is requested that all omissions and errors whether of names or degrees be reported to the Secretary of the College.



CATALOGUE  
OF  
HAVERFORD COLLEGE

HAVERFORD, PA.

1898-99



PHILADELPHIA  
PRESS OF AUSTIN C. LEEDS  
817 FILBERT STREET  
1898

## CALENDAR.

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### 1898-99.

College Year 1898-99 began.....	9th Mo. 28
Winter Recess begins.....	12th Mo. 23
Winter Term begins, 1899*.....	1st Mo. 4
Second Half-year begins.....	1st Mo. 30
Junior Exercises.....	4th Mo. 12
Spring Recess begins.....	4th Mo. 13
Spring Term begins*.....	4th Mo. 25
Examinations for Admission.....	6th Mo. 12 & 13
Alumni Meeting.....	6th Mo. 14
Senior Class Day.....	6th Mo. 15
Commencement Day, 1899.....	6th Mo. 16

### 1899-1900.

Examinations for Admission.....	9th Mo. 25 & 26
College Year 1899-1900 begins*.....	9th Mo. 27
Winter Recess begins.....	12th Mo. 22
Winter Term begins 1900*.....	1st Mo. 3
Second Half-year begins.....	2d Mo. 1
Commencement Day, 1900.....	6th Mo. 15

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\* The first recitations at the beginning of each term are due promptly at *half-past nine o'clock*. No absences from them are excused, unless clearly unavoidable.

## HISTORY AND DESCRIPTION.

In the spring of 1830, a meeting of a few Friends in Philadelphia, shortly followed by a similar meeting in New York, originated Haverford School. The joint committee expressed the object of the effort as follows: "The members of the Society of Friends, having hitherto labored under great disadvantages in obtaining for their children a guarded education in the higher branches of learning, combining the requisite literary instruction with a religious care over the morals and manners of the scholars, . . . and carefully preserving them from the influence of corrupt principles and evil-communications, it is therefore proposed that an institution be established in which the children of Friends shall receive a liberal education in ancient and modern literature, and the mathematical and other sciences."

The \$40,000 supposed to be necessary was raised without great effort, and the committee went out to seek a location. They say: "We wished to procure a farm in a neighborhood of unquestionable salubrity—within a short distance of a Friends' meeting—of easy access from this city at all seasons of the year . . . and that was recommended by the beauty of the scenery and a retired situation." They then go on to say that of the many places presented to them the only one which combined all the advantages was one of 198½ acres (since increased to 215), "near the eight-mile stone of the Lancaster Turnpike." They explain the present and prospective merits of the farm, the beauty of the natural woods, the unfailing springs of purest water, the nearness to the new Pennsylvania Railroad, in words which the succeeding half-century has amply justified.

On the 28th of Tenth month, 1833, the school opened with 21 students. Provision had been made for a superintendent and three teachers,—

“A Teacher of Ancient Languages and Ancient Literature.

“A Teacher of English Literature, and Mental and Moral Philosophy.

“A Teacher of Mathematics and Natural Philosophy.”

The Superintendent was to have charge of the government, order, and domestic economy of the family.

The regulations of the new school were rigid. The bounds and time of the boys were very strictly marked out. All the details of the daily programme were arranged with great care; and if the elaborate provision of a number of wise men, for the normal growth of students could convert boys into perfect men the students of sixty-five years ago had every advantage.

The High School thus established grew rapidly into prosperity and debt. The charges were low, the teachers were liberally paid, and the years which followed were marked by a constant endeavor to produce a maximum of good fruits from very limited funds. The deficiencies were made up in a liberal spirit, and a constant growth was maintained by frequent subscriptions. All the time the school was justifying the effort by the quality of its results, and making for itself an increasing number of friends.

One of the first acts of the committee, after absolute necessities were provided for, was to construct a gymnasium, and make arrangements for systematical physical work. They were determined that the advantage gained by the salubrity of the surroundings should not be lost for want of exercise. Under their care the lawn was graded at great expense, and foreign and native trees set out, with the design to make it a great aboretum. Cricket, a game not known elsewhere in America, was introduced, and has flourished since. A greenhouse and flower-garden were established and maintained for twenty years by the work of the boys. The idea that has done harm elsewhere, that schools are places for mental development only, had no foothold here; but morals, muscles, and senses received their due share of culture.

In 1845 a temporary suspension was decreed to allow the funds to accumulate and to give time for the collection of an endowment. This suspension lasted for three years. In 1852 the observatory was built, and supplied with an 8-inch equatorial and a 4-inch

transit. In 1856 the school was changed to a college, and was authorized by the legislature to grant degrees; but previous to this time the course had been as extended as in many colleges. It was still hampered with a preparatory department, which was not abolished till 1861. In 1863 the Alumni Hall and Library were built. In 1876-7 Barclay Hall, containing private dormitories and study-rooms was erected, at a cost of \$82,000, which was collected by subscription. The Chemical Laboratories were improved in 1878. The new Observatory was built in 1883; the Mechanical Laboratory established in 1884, and was provided with a new building in 1890. This was burned down in 1896, and a new three-story stone structure (Whitall Hall) built. The Biological Laboratory was established in 1886, and the Physical Laboratory 1888. Chase Hall, for lectures and recitations, was built in 1888, and the Cricket Shed in 1893. The new Library Building and Alumni Hall were erected in 1898. Various donations and bequests were received during these years, and in 1897 was paid to the College the Jacob P. Jones endowment of about a million dollars.

During this time Haverford had developed into a fully-organized college. Many rules, adapted to boys of boarding-school age, had been modified or abandoned, though enough of restraint was retained to provide against demoralization. The standard of admission was raised. Students of any denomination were admitted, though Friends still retained the general control. The number of teachers was increased five-fold. By various donations and bequests the endowment fund was enlarged. The annual charge was increased from \$200 to \$500,\* which still fails to represent what the college has to pay for professors' salaries and the board and care of students. Retaining the old idea of a "guarded education" and "a religious care over morals and manners," the college has sought to effect these results, and has measurably succeeded, rather by appeals to Christian principle and manliness than by arbitrary power.

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\*The price may vary, depending on the situation of the room, from \$400 to \$525. Most of the rooms involve a payment of \$500.

In Barclay Hall, the hall of residence, two students occupy a study-room, and each has his private adjoining bed-room. A few single rooms are also provided. Recitation-rooms, laboratories, and the dining-room are in Founders' Hall. The Library, which now contains about 35,000 volumes, and the Observatory, with valuable instruments, are housed in separate buildings. Some of the professors live in the halls with the students, and others have cottages on the grounds.

The college has a remarkably pleasant and healthful location in the township of Haverford, Delaware County,\* Pa., nine miles west of Philadelphia, on the main line of the Pennsylvania Railroad. The buildings are surrounded by grounds of about sixty acres, tastefully laid out, with a great variety of trees and shrubbery. The grounds comprise excellent fields for cricket, foot-ball, tennis, and other field games, a running and bicycle track, and a pond for skating.

The courses of study are designed to give a liberal education. Their scope will be seen on the following pages. Religious instruction is carefully provided. In addition to the daily reading of the Holy Scriptures, recitations in the English or Greek New Testament or in Scripture History are required of the student once a week. By exposition and collateral information the instructors endeavor to enforce the true meaning of the lessons. Haverford College desires to inculcate the simple truths of the Christian religion.

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\*Haverford *Post Office* is in Montgomery County.

## CORPORATION.

---

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233 Chestnut Street, Philadelphia.

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Girard Building, Philadelphia.

*Treasurer,*

ASA S. WING,  
409 Chestnut Street, Philadelphia.

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SAMUEL L. ALLEN,

J. STOGDELL STOKES.

*Secretary of the Board,*

HOWARD COMFORT  
529 Arch Street, Philadelphia.

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Lecturer on Commercial Law and Banking.

DON C. BARRETT, A M.,  
Instructor in Political Science and History.

ALBERT ELMER HANCOCK, PH. D.,  
Instructor in English and German.

MARTIN B. STUBBS, PH. D.,  
Assistant in Chemistry and Physics.

## STUDENTS.

## GRADUATE STUDENT.

William Warder Cadbury, A. B., Philadelphia, Pa.

## SENIOR CLASS.

Batthey, William Aldrich,	<i>Providence, R. I.,</i>	Science.
Bawden, William John,	<i>Philadelphia, Pa.,</i>	Arts.
Blair, Walter Elihu,	<i>Archdale, N. C.,</i>	Arts.
Bode, William,	<i>Austinville, Iowa,</i>	Arts.
Carter, John Darlington,	<i>Lenape, Pa.,</i>	Science.
Conklin, Edward B.,	<i>Brooklyn, N. Y.,</i>	Mechanical Eng.
Davis, Royal Jenkins,	<i>Richmond, Ind.,</i>	Arts.
De Cou, Benjamin Satterthwait,	<i>Moorestown, N. J.,</i>	Mechanical Eng.
Evans, Francis Algernon,	<i>Germantown, Pa.,</i>	Arts.
Jones, Rufus Horton,	<i>Deering, Maine,</i>	Arts.
Lowry, Howard Haines,	<i>Philadelphia, Pa.,</i>	Arts.
Lycett, Edward Hough,	<i>St. Louis, Mo.,</i>	Arts.
Maule, Alfred Collins,	<i>Philadelphia, Pa.,</i>	Mechanical Eng.
Mellor, Ralph,	<i>Philadelphia, Pa.,</i>	Mechanical Eng.
Morris, Joseph Paul,	<i>Philadelphia, Pa.,</i>	Arts.
Petty, Herbert Clinton,	<i>Archdale, N. C.,</i>	Arts.
Redfield, John Howard, Jr.,	<i>Wayne, Pa.,</i>	Mechanical Eng.
Richie, Elisha Roberts,	<i>Moorestown, N. J.,</i>	Science.
Shipley, Malcolm Augustus, Jr.,	<i>Germantown, Pa.,</i>	Arts.
Walter, Frank Keller,	<i>Point Pleasant, Pa.,</i>	Arts.
Wild, Arthur Clement,	<i>Philadelphia, Pa.,</i>	Arts.

## JUNIOR YEAR.

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Allen, Charles Jackson,	<i>Moorestown, N. J.,</i>	Mechanical Eng.
Bell, William Brown,	<i>New York, N. Y.,</i>	Arts.
Burdette, Robert Jones, Jr.,	<i>Bryn Mawr, Pa.,</i>	Arts.
Carter, Charles Henry,	<i>Lenape, Pa.,</i>	Arts.
Carter, John Pim,	<i>Germantown, Pa.,</i>	Arts.
Cope, Francis Reeve, Jr.,	<i>Germantown, Pa.,</i>	Arts.
Drinker, Henry Sandwith, Jr.,	<i>Haverford, Pa.,</i>	Arts.
Emlen, John Thompson,	<i>Germantown, Pa.,</i>	Arts.
Eshleman, Frank Mercur,	<i>Lancaster, Pa.,</i>	Arts.
Febiger, Christian,	<i>Philadelphia, Pa.,</i>	Mechanical Eng.
Freeman, Edward Dale,	<i>Warren, Pa.,</i>	Arts.
Hallett, Henry McLellan,	<i>Windham Centre, Me.,</i>	Arts.
Hinchman, Walter Swain,	<i>Philadelphia, Pa.,</i>	Arts.
Howson, Furman Sheppard,	<i>Wayne, Pa.,</i>	Mechanical Eng.
Jenks, Horace Howard,	<i>Philadelphia, Pa.,</i>	Arts.
Justice, William Warner, Jr.,	<i>Philadelphia, Pa.,</i>	Science.
Levick, Henry Lewis d'Invilliers,	<i>Bala, Pa.,</i>	Arts.
Lloyd, John Eshleman,	<i>Germantown, Pa.,</i>	Special.
Lutz, Frank Eugene,	<i>Bloomsburg, Pa.,</i>	Arts.
Mifflin, Samuel Wright,	<i>Wayne, Pa.,</i>	Arts.
Moorhouse, J. Kennedy,	<i>St. Davids, Pa.,</i>	Arts.
Sensenig, Heber,	<i>Spring Grove, Pa.,</i>	Arts.
Sharpless, Frederic Cope,	<i>Haverford, Pa.,</i>	Arts.
Tatnall, Abram Gibbons,	<i>Coatesville, Pa.,</i>	Science.
Taylor, Edward Ballinger, Jr.,	<i>Sewickley, Pa.,</i>	Arts.
Taylor, Joseph McFerran,	<i>Philadelphia, Pa.,</i>	Arts.

## SOPHOMORE CLASS.

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Baltz, William Sagehorn,	<i>Whitford, Pa.,</i>	Arts.
Bankard, Clarence W.,	<i>Berwyn, Pa.,</i>	Arts.
Brown, Ellis Yarnall, Jr.,	<i>Downingtown, Pa.,</i>	Arts.
Bullinger, Howard Valentine,	<i>Philadelphia, Pa.,</i>	Arts.
Cadbury, John Warder,	<i>Philadelphia, Pa.,</i>	Arts.
Cadbury, William Edward,	<i>Germantown, Pa.,</i>	Arts.
De Armond, James Keyser,	<i>Merion, Pa.,</i>	Arts.
De Motte, Lawrence Washburn,	<i>Bryn Mawr, Pa.,</i>	Arts.
Deweese, Aaron Lovett,	<i>Westtown, Pa.,</i>	Arts.
Freeman, Alfred Edgar,	<i>Philadelphia, Pa.,</i>	Science.
Kirkbride, William Howard,	<i>Philadelphia, Pa.,</i>	Science.
Mellor, George Brown, Jr.,	<i>West Chester, Pa.,</i>	Special.
Mellor, Walter,	<i>Philadelphia, Pa.,</i>	Mechanical Eng.
Neilson, William La Coste,	<i>Philadelphia, Pa.,</i>	Arts.
Patton, Richard Henry,	<i>Wayne, Pa.,</i>	Arts.
Rossmassler, Edward Collins,	<i>Germanstown, Pa.,</i>	Mechanical Eng.
Scholey, Howard Wilson,	<i>Philadelphia, Pa.,</i>	Mechanical Eng.
Scull, Edward Marshall,	<i>Overbrook, Pa.,</i>	Arts.
Sharp, Frederick William,	<i>Berwyn, Pa.,</i>	Arts.
Taylor, Herbert Hazzard,	<i>Philadelphia, Pa.,</i>	Arts.
Thomas, Russell Elmslie,	<i>Devon, Pa.,</i>	Science.
Tomlinson, Alexander Cooper,	<i>Laurel Springs, N. J.,</i>	Special.
Walenta, George John,	<i>Philadelphia, Pa.,</i>	Arts.
Webster, I. Herbert,	<i>Media, Pa.,</i>	Mechanical Eng.
Wendell, Robert Stewart,	<i>Wayne, Pa.,</i>	Mechanical Eng.
Winslow, John Leiper,	<i>Baltimore, Md.,</i>	Arts.
Wirgman, William Wayne,	<i>Paoli, Pa.,</i>	Mechanical Eng.
Wood, Walter Hallock,	<i>Farmington, N. Y.,</i>	Arts.
Woodward, William Wellington,	<i>West Chester, Pa.,</i>	Arts.
Yearsley, Arthur Ralston,	<i>Coatesville, Pa.,</i>	Science.

## FRESHMAN CLASS.

Barclay, Joseph John,	<i>Bedford, Pa.,</i>	Arts.
Boles, Edgar Howard,	<i>Ardmore, Pa.,</i>	Arts.
Boyer, Frank Buckner,	<i>Philadelphia, Pa.,</i>	Arts.
Caswell, Andrew Baird,	<i>Philadelphia Pa.,</i>	Arts.
Chambers, William Wilkie,	<i>Bryn Mawr, Pa.,</i>	Arts.
Cookman, Arthur Shirley,	<i>Wilmington, Del.,</i>	Arts.
Ervien, Charles Richman,	<i>Philadelphia, Pa.,</i>	Mechanical Eng.
Evans, Edward Wyatt,	<i>Germantown, Pa.,</i>	Arts.
Fox, John Sharpless,	<i>West Chester, Pa.,</i>	Arts.
Grant, William Henry,	<i>Woonsocket, R. I.,</i>	Mechanical Eng.
Gummere, Richard Mott,	<i>Haverford, Pa.,</i>	Arts.
Hall, William Wilder,	<i>Roxbury, Mass.,</i>	Science.
Haviland, Joseph Bernard,	<i>Glens Falls, N. Y.,</i>	Arts.
Hipple, Edward Payson, Jr.,	<i>Philadelphia, Pa.,</i>	Mechanical Eng.
Jones, Hudson Godfrey,	<i>Ardmore, Pa.,</i>	Arts.
Jones, S. Percy,	<i>Germantown, Pa.,</i>	Mechanical Eng.
Kirk, Edward Goodwin,	<i>West Chester, Pa.,</i>	Arts.
Lane, Silas,	<i>Poughkeepsie, N. Y.</i>	Special.
Longstreth, William Collins,	<i>Philadelphia, Pa.,</i>	Arts.
Malone, Lewis,	<i>Wycombe, Pa.,</i>	Arts.
Morris, Galloway Cheston,	<i>Philadelphia, Pa.,</i>	Arts.
Newlin, Gurney Elwood,	<i>Los Angeles, Cal.,</i>	Arts.
Nicholson, Percival,	<i>Haverford, Pa.,</i>	Science.
Pusey, William Webb, 2nd.,	<i>Wilmington, Del.,</i>	Science.
Pyle, Cyrus,	<i>Wilmington, Del.,</i>	Science.
Reeder, John Wallace,	<i>Bellefonte, Pa.,</i>	Science.
Roberts, David Allen,	<i>Moorestown, N. J.,</i>	Mechanical Eng.
Scott, Norris Alexander,	<i>Moylan, Pa.,</i>	Mechanical Eng.
Seiler, Carlino Linn,	<i>Lewisburg, Pa.,</i>	Mechanical Eng.
Sensenig, Wayne,	<i>Goodville, Pa.,</i>	Arts.
Spiers, Alexander Guy Holborn,	<i>Wayne, Pa.,</i>	Arts.
Stone, John Lyon,	<i>Warren, Pa.,</i>	Arts.
Stork, Charles Wharton,	<i>Germantown, Pa.,</i>	Arts.
Thomas, George Herbert,	<i>Philadelphia, Pa.,</i>	Arts.
Trout, Edgar Earl,	<i>Wayne, Pa.,</i>	Science.
Whiteley, Stockett Mathews,	<i>Baltimore, Md.,</i>	Arts.
Wistar, Caspar,	<i>La Motte, Pa.,</i>	Special.
Wood, Alexander Cooper, Jr.,	<i>Cinnaminson, N. J.,</i>	Arts.
Woodward, Parke Lewis,	<i>West Chester, Pa.,</i>	Arts

## SUMMARY.

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## ADMISSION.

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**Candidates for the Freshman Class are admitted only on examination.**

Examinations are held twice a year, in the Sixth and Ninth months.

They will be at the College, except in the case of distant candidates for whom special arrangements may be made.

In 1899 the dates will be as follows :—

*Sixth month 12th, and Ninth month 25th.*

9-10	{	Latin Composition	1 ½-2 ½	Algebra.
		Elementary Physics,	2 ¾-3 ¾	Plane Geometry.
10-11	{	Latin Prose Authors	4-5	{ Greek Composition
		Elementary Physiology		{ Solid Geometry.
11-12	{	Latin Poets.		
		English History.		

*Sixth month 13th, and Ninth month 26th.*

9-11	{ Greek Authors, French.	$1\frac{1}{2}$ - $3\frac{1}{2}$	German.
$11\frac{1}{4}$ - $12\frac{3}{4}$	English,	$3\frac{1}{2}$ - $4\frac{1}{2}$	{ Greek History. U. S. History.
		$4\frac{1}{2}$ - $5\frac{1}{2}$	Roman History.

A candidate may pass a Preliminary Examination in some of his studies, and be examined in the remaining studies in a subsequent year. A certificate will be given for the studies passed. No student will be admitted to a Preliminary Examination without a Certificate of Preparation from his teacher, specifying the subjects in which he is prepared.

Candidates for Corporation Scholarships (see page 30) must take all their examinations not later than the Sixth month of the year of entry. Such candidates should announce their intention at least two weeks before the time of examination.

#### SUBJECTS FOR EXAMINATION.

For all Candidates :

##### ENGLISH.\*

1. *Reading*.—A certain number of books will be set for reading. The candidate will be required to present evidence of a general knowledge of the subject-matter. The form of examination will usually be the writing of a paragraph or two on each of several topics, to be chosen by the candidate from a considerable number set before him in the examination paper. The treatment of these topics is designed to test the candidate's power of clear and accurate expression, and will call for only a general knowledge of the substance of the books. In place of this test, the candidate may present an exercise book, properly certified by his instructor, containing compositions or other written work done in connection with the reading of the books.

The books set for this part of the examination will be :

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\* NOTE—No candidate will be accepted in English, whose work is notably defective in point of spelling, punctuation, idiom, or division into paragraphs.

1899: Dryden's *Palamon and Arcite*; Pope's *Iliad*, Books I., VI., XXII. and XXIV.; The Sir Roger de Coverley Papers in *The Spectator*; Goldsmith's *Vicar of Wakefield*; Coleridge's *Ancient Mariner*; De Quincey's *Flight of a Tartar Tribe*; Cooper's *Last of the Mohicans*; Lowell's *Vision of Sir Launfal*; Hawthorne's *House of the Seven Gables*.

1900: Dryden's *Palamon and Arcite*; Pope's *Iliad*, Books I and XXII.; The Sir Roger de Coverley Papers in *The Spectator*; Goldsmith's *The Vicar of Wakefield*; Scott's *Ivanhoe*; De Quincey's *Flight of a Tartar Tribe*; Cooper's *The Last of the Mohicans*; Tennyson's *Princess*; Lowell's *Vision of Sir Launfal*.

II. *Study and Practice*.—This part of the examination presupposes the thorough study of each of the works named below. The examination will be upon the subject-matter, style and construction.

The books set for this part of the examination will be:

1899: Shakspeare's *Macbeth*; Milton's *Paradise Lost*, Books I. and II.; Burke's *Speech on Conciliation with America*; Carlyle's *Essay on Burns*.

1900: Shakspeare's *Macbeth*; Milton's *Paradise Lost*; Burke's *Speech on Conciliation with America*; Macaulay's *Essays on Milton and Addison*.

MATHEMATICS.—*Algebra*, including quadratic equations and radicals; *Plane Geometry*.

NOTE.—*Solid Geometry* will be required of all students not presenting Greek.

SCIENCE.—Elementary Physics and Human Physiology will be required of all students presenting neither Greek nor Latin.

HISTORY.—Any two of the following may be offered except for the Course in Arts, for which Greek and Roman History will be required.

1. Greek History to the death of Alexander.
2. Roman History to the death of Marcus Aurelius.
3. English History.
4. American History, including the period of Discovery and Colonization.



## TWO OF THE FOLLOWING LANGUAGES : \*

*Greek*.—(a) Xenophon, the *Anabasis*, Books I.-IV.; Homer, the *Iliad*, Books I.-III., omitting the Catalogue of Ships. [The examination will be designed to test the candidate's knowledge of grammatical forms and constructions, and his ability to translate into idiomatic English]. (b) The translation at sight of simple Attic prose. (c) The translation into Greek of a simple English passage, based upon some portion of the Xenophon prescribed.

*Latin*.—(a) Cæsar, the *Gallic War*, Books I.-IV.; Cicero, the speech on the *Manilian Law*, the four against Catiline, and the speech for Archias; Virgil, the *Æneid*, Books I.-VI. [The examination will be designed to test the candidate's knowledge of grammatical forms and constructions, and his ability to translate into idiomatic English]. (b) The translation at sight of simple Latin prose or verse. (c) The translation into Latin of a simple English passage, based upon some portion of the Cicero or Cæsar prescribed.

*German*.—(a) The translation at sight of ordinary simple German prose. (The passages set for translation must be rendered into simple idiomatic English.)

(b) The translation into German of simple English sentences or of easy connected prose, to test the candidate's familiarity with the grammar. Proficiency in grammar may also be tested by direct questions.

The passages set for translation into English will be suited to the proficiency of candidates who have read not less than three hundred pages (including reading at sight in class) from the works of at least three different authors. Suggestions as to authors or books will be given if desired.

*French*.—(a) The translation at sight of ordinary Nineteenth Century French. (The passages set for translation must be rendered into simple idiomatic English.)

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\* NOTE.—Of all candidates for the Bachelor of Arts degree *either* Greek or Latin will be required. Of all candidates for admission to the Engineering course one language only will be required.

(b) The translation into French of simple English sentences or of easy connected prose, to test the candidate's familiarity with the grammar. Proficiency in grammar may also be tested by direct questions.

The passages set for translation into English will be suited to the proficiency of candidates who have read not less than four hundred pages (including reading at sight in class) from the works of at least three different authors. Suggestions as to authors or books will be given if desired.

Equivalents will be accepted in all the linguistic requirements.

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Students not able to pass all the examinations may be admitted with a few conditions.

Students not candidates for a degree may, at the discretion of the Faculty, be permitted to pursue special courses, for proficiency in which, certificates may be granted ; but this permission will be given only to students of sufficient ability and character to insure their success.

Candidates may be admitted to advanced classes if found fitted in all the preliminary studies of the course.

Each candidate must forward, together with his application, a certificate of good moral character from his last teacher ; and students from other colleges must present certificates of honorable dismissal in good standing.

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## COURSES OF INSTRUCTION.

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There are three courses :—

1. *Course in Arts*, leading to the degree of *Bachelor of Arts*.
2. *Course in Science*, leading to the degree of *Bachelor of Science*.

3. *Course in Mechanical Engineering*, leading to the degree of *Bachelor of Science*.

The first two of these courses are combined in the following table.

Students must continue for two years the languages presented on admission. The degree of Bachelor of Arts will be given only to a student who takes either Latin or Greek.

## COURSE IN ART AND COURSE IN SCIENCE.

### FRESHMAN YEAR.

1. *Scripture*. General outline of the history and literature of the Bible. One hour a week.

2. *English*.—A. S. Hill, *Foundations of Rhetoric*; English Literature; Themes; Declamations. Two hours a week.

3. *History of England*. Lectures and required readings. Two hours a week.

4. *Mathematics*; *Solid Geometry*; Hall and Knight's *Higher Algebra*; Jones's *Trigonometry*; *Geometrical Conic Sections*. Four hours a week.

NOTE—Students presenting *Solid Geometry* for admission will take a course in *Elementary Mechanics*.

5 and 6. Two of the following languages:

a. *Greek*. Lysias, *Select Orationes*; Herodotus, *Selections*; Homer, *Selections*; Translation at sight; Greek Composition. Four hours a week.

b. *Latin*. Cicero, *Fourth Verrine*; Virgil, *Bucolics and Georgics*, Bk. iv.; Livy, Bks. xxi., xxii.; Translation at sight; Prose Composition. Four hours a week.

c. *German*. Exercises in composition; Freytag, *Die Journalisten*; Schiller, *Wallenstein*; Lessing, *Minna von Barnhelm*; Selections from German Prose; Reading at sight; Private Reading of books assigned by the instructor. Four hours a week.

d. *French*. Nineteenth Century; Daudet, Sandeau, Lamartine, Hugo, Dumas, Mérimée, Loti. Seventeenth Century; La Fontaine, Corneille, Racine, Molière. History of French Literature (XVII-XIX Centuries); Composition. Four hours a week.

7. *Physical Training*. Physiology and Hygiene—First Quarter; Gymnasium Work—Second and Third Quarters.

## SOPHOMORE YEAR.

1. *Scripture*. Greek or English New Testament. One hour a week.
  2. *English*.—Barrett Wendell, *English Composition*; Readings in English Literature; Lectures; Themes; Spoken Forensics. Two hours a week.
  3. *Mathematics*. Plane Analytical Geometry. Four hours a week the first half-year.
  - 4 and 5. Two of the following languages:
    - a. *Greek*. Plato, *Apology* and *Crito*, or *Phaedo*; Æschylus, *Prometheus*; Euripides, *Alcestis*; Translation at sight (Xenophon, *Memorabilia*); Exercises in writing Greek; Thucydides, *Selections*. Three hours a week.
    - b. *Latin*. Tacitus, *Germania* and *Agricola*; Pliny, *Selected Letters*; Horace, *Odes* and *Epodes*; Translation at sight; Mackail's *Latin Literature*. Three hours a week.
    - c. *German*. Goethe, *Faust*, *Iphigenie*, and *Aus Meinem Leben*; Freytag, *Aus dem Staat Friedrichs des Grossen*; Private Reading; Lectures on German Literature. Three hours a week.
    - d. *French*. General view of the Literature of the Seventeenth, Eighteenth, and Nineteenth Centuries; Corneille, *Polyeucte*; Racine, *Phèdre*; Molière, *Les Précieuses Ridicules*, *Le Misanthrope*, *Le Tartuffe*; Pascal, *Pensées*; Bossuet, *Oraison funèbre de Henriette d'Angleterre*; Regnard, *Le Joueur*; Voltaire, *Extraits en prose*; J.-J. Rousseau, *Morceaux Choisis*; Marivaux, *Le jeu de l'amour et du hasard*; Beaumarchais, *Le Mariage de Figaro*; Chateaubriand, *Atala*; A. de Musset, *On ne badine pas avec l'amour*; Victor Hugo, *Poésies*; *Les Misérables*; Balzac, *Eugénie Grandet*; George Sand, *Les Maîtres Sonneurs*; Daudet, *Tartarin de Tarascon*; Augier, *Le Gendre de Monsieur Poirier*; Pailleron, *Le Monde où l'on s'ennuie*. In connection with this course the students will be required to read Petit de Julleville's *Leçons de Littérature Française* for a survey of the history of French literature from its origin to the present day. Three hours, a week.
  6. *Physics*. Elementary Physics, and Laboratory Work. Four hours a week the first half-year.
  7. *Chemistry*. Elementary General Chemistry, Lectures and Laboratory Work. Four hours a week the second half-year.
- NOTE.—In all such cases the number of recitations, or their equivalent in laboratory work, is given—one hour of recitation being supposed equivalent to two and a half hours of laboratory.
8. The student will also elect one of the following the second half-year.
    - a. *Mathematics*. Calculus. Four hours a week.
    - b. *Elementary Biology*. Lectures and Laboratory Work. Five hours a week.
  9. *Physical Training*. Gymnasium Work.

## JUNIOR YEAR.

1. *Scripture*. One hour a week.
2. *Political Science*. Political Economy: Economic Problems (Text Book, Discussions and Lectures). Two hours a week.
3. *Philosophy*. Logic and Psychology. Two hours a week.
4. *Themes*.
5. *Elective Studies* from the lists on pages 22-26, subject to the limitations in the following notes. Ten hours a week.

*Note 1.* All students shall have had, before graduation, at least one year (three hours) each of German and French.

*Note 2.* All candidates for the Bachelor of Arts degree shall take either Greek, Latin or Mathematics (three hours) in the Junior year.

*Note 3.* All candidates for the Bachelor of Science Degree shall take two of the following (each three hours) in the Junior year: Mathematics, Chemistry, Physics, Geology and Astronomy, Biology.

## SENIOR YEAR.

1. *Scripture*. One hour a week.
2. *Ethics*. Two hours a week.
3. *Themes*.
4. *Elective Studies* from the lists on pages 22-26. Twelve hours a week.

## SYNOPSIS OF ABOVE COURSES.

## FRESHMAN.

Scripture,.....	1 hour.
English,.....	4 hours.
History,.....	2 "
Mathematics,.....	4 "
Two of the following,.....	8 "
Greek, .....	4 hours.
Latin, ....	4 "
German, .....	4 "
French, .....	4 "
Physical Training.	

## JUNIOR.

Scripture,.....	1 hour.
Political Science,.....	2 hours.
Philosophy,.....	2 "
Electives,.....	10 "
Themes.	

## SOPHOMORE.

Scripture,.....	1 hour.
English, .....	2 hours.
Mathematics, 1st half...	} 4 hours.
Mathematics 4 } 2nd half	
or Biology 5 }	
Physics, 1st half,.....	} 4 hours.
Chemistry, 2nd half,....	
Two of the following,.....	6 hours.
Greek,.....	3 hours.
Latin,.....	3 "
German, .....	3 "
French, .....	3 "
Physical Training.	

## SENIOR.

Scripture, ...	1 hour.
Ethics,.....	2 hours
Electives, .....	12 "
Themes.	

## MECHANICAL ENGINEERING COURSE.

## FRESHMAN YEAR.

Mathematics,.....	4 hours.
Shop Work and Drawing,.....	10=4 “
French or German.....	4 “
English and History,..	5 “

## SOPHOMORE YEAR.

Mathematics, .....	4 hours.
Shop Work and Drawing, .....	10=4 “
Physics and Chemistry,.....	4 “
French or German,...	3 “
English,.....	2 “

## JUNIOR YEAR.

Applied Mathematics.	3 hours.
Shop Work and Drawing,.....	10=4 “
Materials of Engineering,.....	2 “
Chemistry, .....	5=2 “
Descriptive Geometry, etc.,.....	2 “
Electives, .....	2 “

## SENIOR YEAR.

Ethics, .....	2 hours.
Mathematics, .....	3 “
Mechanical Laboratory,.....	7½=3 “
Theory of Steam Engine, Machine Design, .....	2 “
Electives,.....	4 “

For Electrical Students the course will be modified during the last two years so as to include a course in Theoretical and Practical Electricity.

Scripture and Themes are required throughout, and Physical Training through two years.

## PREPARATORY MEDICAL COURSE.

This course is designed for students who are candidates for the degree of A. B. or S. B. and who are looking forward to the study of medicine. It is intended that the studies included in it shall be taken as electives principally during the Junior and Senior years. Students satisfactorily completing this course will receive certificates which, together with their diplomas, will admit them without examination to the second year of the Medical School of the University of Pennsylvania or the Jefferson Medical School of Philadelphia.

The studies included in this course, together with the whole number of hours in the lecture-room and laboratory necessary to be devoted to each, are as follows:

General Biology,.....	96 hours	Histology,.....	72 hours
Zoology,.....	96 “	Physiology,.....	72 “
Botany,.....	96 “	Physics,.....	72 “
Mammalian Anatomy,.....	96 “	Chemistry,.....	216 “
Embryology,.....	58 “	Human Anatomy,.....	144 “

Students not candidates for a degree may take the above studies in two years. Such students may not be admitted to the second year of the Medical Schools.

## ELECTIVE COURSES.

Seniors and Juniors will elect from the following list, with the approbation of the Faculty, courses sufficient to make up the required number of hours.

### GREEK.

I. Sophocles, *Antigone*, *Œdipus Tyrannus*; Euripides, *Medea*; Aristophanes, *Frogs*. [Prof. Gifford. \* 3]

II. Plato, *Gorgias*, and *Selections*; Demosthenes, *On the Crown*.

[Prof. Gifford. 3.]

III. Outline of the History of Greek Literature; *Selected Readings*, Lectures.

Greek Archæology, *Topics*, *Lectures*.

[Prof. Gifford. 3.]

Only two of the above courses are given in the same year.

### LATIN.

I. Selections from Lucretius and Catullus; Virgil, *Georgics* i, ii, iv and *Æneid*, vi.; Tacitus *Annals*, Bks. i-vi. Translation at sight.

[Dr. Mustard. 3.]

II. The principal Satires of Horace and Juvenal; Terence, *Adelphæ*; Plautus *Captives*; Tacitus, *History*, Bks. i-ii.

[Dr. Mustard. 3.]

III. Advanced Latin Composition.

[Dr. Mustard. 1.]

### ENGLISH.

I. ANGLO-SAXON.—Bright, *Anglo-Saxon Reader*; *Beowulf*; Lectures.

[Dr. Gummere. 2.]

II. ENGLISH LITERATURE IN THE FOURTEENTH CENTURY.—Chaucer's *Canterbury Tales*. Lectures.

[Dr. Gummere. 2.]

III. SHAKSPERE AND MILTON; Private Readings; Lectures on Elizabethan Poetry.

[Dr. Gummere. 2.]

IV. ENGLISH LITERATURE OF THE EIGHTEENTH CENTURY.—Selections from Representative Authors; Lectures; Private Readings.

[Dr. Gummere. 2.]

V. ENGLISH LITERATURE OF THE NINETEENTH CENTURY.—Selections from Representative Authors; Lectures; Private Readings.

[Dr. Hancock. 1.]

VI. ADVANCED ENGLISH COMPOSITION AND ORAL DISCUSSION. Daily Themes. Forensics preceded by Briefs.

[Dr. Hancock. 2.]

Those only who have attained good rank in Freshman and Sophomore English will be admitted to this Class. Members of it will be exempted from regular theme work.

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\* These figures represent the number of hours per week. In Laboratory Work, etc., two and a half hours count as one.

## GERMAN.

I. MIDDLE-HIGH-GERMAN.—Paul, *Mittelhochdeutsche Grammatik*. Selections from the Poems of Walter von der Vogelweide. *Das Niebelungentlied*. [Dr. Gummere. 2.]

II. GÖTTE, *Faust*, *Iphigenie*, and *Aus Meinem Leben*; Freytag, *Aus dem Staat Friedrichs des Grossen*; Private Readings; Lectures in German Literature. [Dr. Gummere. 3.]

III. Exercises in Composition; Freytag, *Die Journalisten*; Schiller, *Wallenstein*; Lessing, *Minna von Barnhelm*; Selections from German Prose; Reading at sight; Private reading of books assigned by the instructor. [Dr. Gummere. 4.]

IV. Thomas, *German Grammar*; Harris, *German Reader*; Storm, *Immensée*, *Geschichten aus der Tonne*; Translations at sight of ordinary prose; Exercises in Composition. [Dr. Hancock. 3.]

## FRENCH.

I. General view of the literature of the Seventeenth, Eighteenth, and Nineteenth Centuries; Corneille, *Polyeucte*; Racine, *Phèdre*; Molière, *Les Précieuses Ridicules*, *Le Misanthrope*, *Le Tartuffe*; Pascal, *Pensées*; Bossuet, *Oraison funèbre de Henriette d'Angleterre*; Regnard, *Le Joueur*; Voltaire, *Extraits en prose*; J.-J. Rousseau, *Morceaux Choisis*; Marivaux, *Le jeu de l'amour et du hasard*; Beaumarchais, *Le Mariage de Figaro*; Chateaubriand, *Atala*; A. de Musset, *On ne badine pas avec l'amour*; Victor Hugo, *Poésies*; *Les Misérables*; Balzac, *Eugénie Grandet*; George Sand, *Les Maîtres Sonneurs*; Daudet, *Tartarin de Tarascon*; Augier, *Le Gendre de Monsieur Poirier*; Pailleron, *Le Monde où l'on s'ennuie*. In connection with this course the students will be required to read Petit de Julleville's *Leçons de Littérature Française* for a survey of the history of French literature from its origin to the present day. [Prof. Ladd. 3.]

II. Nineteenth Century: Daudet, Sandeau, Lamartine, Hugo, Dumas, Mérimée, Loti. Seventeenth Century: Corneille, Racine, Molière, La Fontaine, History of French Literature (XVII-XIX Centuries); Composition. [Prof. Ladd. 4.]

III. Graudgent's *French Grammar*; Erckmann-Chatrian's *Madame Thérèse*; Labiche's *Le Voyage de M. Perrichon*; Sand's *La Mare au Diable*; Coppée's *Le Luthier de Crémone*. [Prof. Ladd. 3.]

## PURE MATHEMATICS.

I. Analytical Geometry of Three Dimensions. Calculus.

[Dr. Morley. 3.]

This course is required of Engineering Students in their Junior year; and it is the proper course, in general, for all students who elect Pure Mathematics in their Junior year.

II. Modern Methods in Analytic Geometry.

[Dr. Morley. 3.]



III. Introduction to the Theory of Functions. The Trigonometric and Elliptic Functions. [Dr. Morley. 3.]

IV. Fourier Series and Spherical Harmonics. [Dr. Morley. 3.]

#### APPLIED MATHEMATICS.

I. Introduction to Analytical Mechanics, including Attraction and Potential. [Dr. Brown. 3.]

II. Differential Equations (Forsyth). [Dr. Brown. 3.]

III. Elementary Rigid Dynamics (Routh). [Dr. Brown. 3.]

#### HISTORY.

I. American Colonial History to 1783; Europe and America during the Eighteenth Century. [Prof. Thomas. 3.]

II. Constitutional and Political History of the United States, 1783 to 1865. [Prof. Thomas. 3.]

Courses I. and II. are intended to be given in alternate years.

#### PHILOSOPHY.

History of Philosophy. [Dr. Jones. 2.]

History of the Development of Christian Thought. [Dr. Jones. 1.]

#### POLITICAL SCIENCE.

I. Economic Theory with special reference to problems of distribution: Discussions and Lectures. (Half-year.) *Omitted 1898-9.*

[D. C. Barrett. 3.]

II. Money and Banking; Discussions, Reports and Lectures. (Half-year.) [D. C. Barrett. 3.]

III. History and Problems of Transportation in the United States. (Half-year.) [D. C. Barrett. 3.]

IV. Modern Government: American and European Systems: Discussions, Reports and Lectures. [D. C. Barrett. 3.]

#### ASTRONOMY.

I. Practical Astronomy, with Observatory Practice.

[W. H. Collins. 2.]

II. Descriptive Astronomy. (Half-year.)

[W. H. Collins. 3.]

#### CHEMISTRY.

The following courses must be preceded by the Course in Elementary General Chemistry of the Sophomore year, or its equivalent.

I. Qualitative Analysis; Laboratory Practice with occasional lectures and recitations. Preparation of Elements and Compounds.

[Dr. Hall. 2 or more.]

II. Quantitative Analysis; Gravimetric and Volumetric determinations. Inorganic preparations. Lectures and recitations.

[Dr. Hall. 2 or more.]

III. Organic Chemistry; Lectures and Laboratory Work.

[Dr. Hall. 2.]

IV. Advanced Quantitative Analysis; Gas Analysis; Examination of Water, Milk, Butter, Iron and Steel, etc.

[Dr. Hall. 2 or more.]

## BIOLOGY.

All of the following courses except Course VII. must be preceded by the Course in Elementary Biology, given in the second half of the Sophomore year.

- I. Comparative Anatomy of Vertebrates; Lectures and Laboratory Work. [Dr. Pratt. 3.]
- II. Morphology of Invertebrates; Lectures and Laboratory Work. [Dr. Pratt. 1 or more.]
- III. Histology of Vertebrates; Lectures and Laboratory Work. [Dr. Pratt. 3.]
- IV. Embryology of Vertebrates; Lectures and Laboratory Work. [Dr. Pratt. 3.]
- V. General Botany; Lectures and Laboratory Work. [Dr. Pratt. 2.]
- VI. Entomology; Lectures and Laboratory Work. [Dr. Pratt. 2.]
- VII. Evolution and Heredity; Lectures. [Dr. Pratt. 1.]

The above Courses are arranged to occupy two years. Courses I., II. and VII. each occupies a year; Courses III. and IV. together occupy a year; Courses V. and VI. together occupy a year. Course I. is given in alternate years with Courses III. and IV.; Courses V. and VI. are given in alternate years with Course VII. Seniors and graduate students who are properly prepared will be given any advanced work they may elect including special investigations.

VIII. Human Anatomy (Preparatory Medical); Anatomy of the Extremities, and General Osteology. [Dr. Babbitt. 2.]

IX. Human Anatomy (Preparatory Medical). Anatomy of Head and Trunk, including Brain and Nervous System. [Dr. Babbitt. 2.]

Courses VIII. and IX. are given in alternate years.

X. Advanced Physiology.—A General Course, including practical and experimental work. [Dr. Babbitt. 1.]

## GEOLOGY.

Elementary Geology; Recitations and Field Work. (Half-year.) [Dr. Pratt. 3.]

## ENGINEERING.

I. Materials of Construction; Theory of Steam Engine. [Prof. Edwards. 2.]

II. Descriptive Geometry; Elements of Mechanism. [Profs. Edwards and Brown. 2.]

Courses I. and II. will be given in alternate years.

III. Machine Design and Draughting. (Open to Engineering Students only.) [O. M. Chase. 2.]

## PHYSICS.

I. Electrical Engineering; Slingo and Brooker's Electrical Engineering and S. P. Thompson's Dynamo-Electric Machinery with Laboratory work. [Prof. Edwards. 2.]

II. Electricity and Magnetism; Advanced Experimental Work with Lectures. [Prof. Edwards. 2.]

III. Theory of Heat; Stewart's Heat and Clausius' Mechanical Theory of Heat, with Laboratory Work. [Prof. Edwards. 2.]

## PUBLIC LECTURES, 1897-8.

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### HAVERFORD LIBRARY LECTURES.

DR. HENRY VANDYKE :

Egypt in the Bible. (Three Lectures.)

RUFUS M. JONES :

The Attitude of the Modern Christian toward the Bible. (One Lecture.)

DR. FRANK K. SANDERS :

The Synoptic Gospels. (Two Lectures.)

### FACULTY LECTURES.

RUFUS M. JONES :

Telepathy.

FRANK E. FARLEY :

The Song of Roland.

LEVI T. EDWARDS :

Modern Experiments in Electrical Heating. (Illustrated.)

ALLEN C. THOMAS :

The Fen-Lands of England in History and Song.

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DR. ALBERT H. SMYTH :

The Land of Shakespeare. (Illustrated.)

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## GRADING OF STUDENTS.

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STUDENTS are divided, according to their grades, into five sections, A, B, C, D, E. Each student is notified of the section to which he has been assigned, but the grades are not published. Section E is composed of those who cannot be advanced to the next highest class, or receive their Bachelor's degree. Daily recitations, hour examinations, and final examinations are all used as elements in determining the standing of a student.

ADVANCED DEGREES.

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Graduates of three years' standing may take the degree of MASTER OF ARTS or of MASTER OF SCIENCE, by passing an examination on some literary or scientific course of study which shall receive the approbation of the Faculty.

Candidates who are examined may also be required to hand in dissertations on topics in the field of study which they have specially investigated.

*Resident* Graduates, who have completed an adequate course of study, may be admitted to an examination for a second degree at the expiration of one or two years.

Notice of application for examination must be given to the President two months before Commencement. The examination for non-residents will be held during the last week in the Fifth month, and in no case at a later date. The fee for the Master's Diploma is Twenty Dollars, to be paid in all cases before the 1st of the Sixth month.

Adequate courses of study for the Master's degree will be arranged on application to the President.

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EXPENSES.

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The usual charge for Tuition, Board, and Room Rent in Barclay Hall is five hundred dollars (\$500) a year.

A few students will be taken in larger rooms for five hundred and twenty-five dollars (\$525) a year, and a few in Founders' Hall for four hundred dollars (\$400) a year.

NOTE.—The rent of rooms includes steam heat, electric light, necessary bed-room furniture, and care of rooms. Students will supply their study-room furniture, also towels and table napkins.

The charge for tuition is one hundred and fifty dollars (\$150) a year; for tuition and mid-day meal, two hundred dollars (\$200) a year.

Books and stationery will, at the option of the student, be supplied by the college and charged on the half-yearly bills. Materials consumed and breakage in the laboratories are also charged.

Bills for Board and Tuition are payable one-half at the beginning and one-half at the middle of the college year.

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## SCHOLARSHIPS.

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I. Senior Scholarships. Four Scholarships of the annual value of \$300 each are offered to graduates nominated by the Faculties of Earlham, Penn, Wilmington, and Guilford Colleges.

The charges for Board and Tuition are \$400 or \$500 per year according to the location of the room. Rooms will be reserved at the former rate till Fifth month 1st of each year for the recipients of Senior Scholarships in the succeeding year.

II. I. V. Williamson Scholarships. Three Scholarships covering all expenses of Board and Tuition.

III. Richard T. Jones Scholarship. One Scholarship covering all expenses of Board and Tuition.

II. and III. will be so arranged that one only will usually be vacated each year and awarded to a Freshman.

IV. Corporation Scholarships. Sixteen Scholarships of the annual value of \$300 each will be given by competitive examination open to all applicants for admission to the Freshman Class.

Details of the examination will be given on application to the President.

V. Foundation Scholarships. Eight Scholarships of the annual value of \$200 each. Three of these may be given on the nomination of the Faculty of Westtown Boarding School.

VI. Edward Yarnall Scholarship. One Scholarship of the annual value of \$200. Open only to Friends.

VII. Thomas P. Cope Scholarship. One Scholarship of the annual value of \$200. Open only to Friends who intend to teach.

VIII. Sarah Marshall Scholarship. One Scholarship of the annual value of \$150.

IX. Mary M. Johnson Scholarship. One Scholarship of the annual value of \$150.

X. Isaac T. Johnson Scholarship. One Scholarship of the annual value of \$200 given on the nomination of Friends' School, 4th and West Sts., Wilmington, Del.

XI. Day Scholarships. Eight Scholarships of the annual value of \$100 each.

XII. One Scholarship of the annual value of \$150 which may be given on the nomination of the Lower Merion High School.

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All Scholarships are given for one year only but may be renewed by the College (except I., X. and XII.) if the conduct and standing of the recipient be satisfactory.

I., X. and XII., will thus be vacated yearly, and about one-fourth of the others.

Except XI. and XII., all Scholarships involve residence at the College.

All applicants must present satisfactory proof of good preparation and of high character.

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## THE HAVERFORD FELLOWSHIP.

This fellowship, of the annual value of \$500, may be awarded by the Faculty to the best qualified applicant from the Senior Class. He is required to spend the succeeding year engaged in study at some American or foreign university approved by the Faculty.

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## PRIZES.

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### ALUMNI PRIZE FOR COMPOSITION.

The Association of the Alumni, in the year 1875, established an ANNUAL PRIZE, either of a Gold Medal or of an equivalent value in books with a Bronze Medal, for excellence in Composition and Oratory.

The following are the rules governing the competition :

I. The Alumni Medal is offered yearly to the competition of the members of the Senior and Junior Classes, as a prize for the best delivered oration prepared therefor.

II. Three or five Judges shall be appointed from year to year by the Alumni Committee, who shall hear publicly, in Alumni Hall, all competitors who may be qualified to appear.

III. No oration shall occupy in delivery more than fifteen minutes.

IV. In making their award, while due weight is given to the literary merits of the oration, the Judges are to consider the prize as offered to encourage more especially the attainment of excellence in elocution.

V. The Judges shall have the right to withhold the prize if the elocution and the literary merits of the oration fall below a suitable standard of excellence.

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#### THE EVERETT SOCIETY (SILVER) MEDAL.

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The medal is offered by the founder to the competition in oratory of the members of the two lower classes, in loving memory of the old Everett Society, which no longer preserves its separate existence.

Orations shall not exceed ten minutes in delivery, shall be prepared considerably in advance and perfectly committed to memory.

It is desired, in addition, that a record should be kept of each year's contest. The precise rules governing each contest will be announced in advance.

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#### JOHN B. GARRETT PRIZES FOR SYSTEMATIC READING.

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Two prizes, of \$60 and \$40 respectively, will be given to those members of the Junior Class who, having creditably pursued their regular studies and paid proper attention to physical culture, shall have carried on the most profitable course of reading of standard authors during the Sophomore and Junior years.

The direction of the work and the decision as to the award of the prizes shall be in the hands of a committee consisting of the President, the Librarian and the Professor of English.

Either or both of these prizes may be omitted if, in the judgment of the committee, the work does not justify the award.

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THE CLASS OF 1896 PRIZES IN LATIN AND MATHEMATICS.

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These are two prizes of \$10 each. They will be awarded at the end of the Sophomore year, for proficiency in Latin and Mathematics respectively.

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PHILIP C. GARRETT PRIZES

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These are five prizes of \$10 each, in books or cash, as follows :—

1. To the most proficient student in mathematics at the end of the Senior Year.
  2. To the most proficient student in Greek at the end of the Freshman Year.
  3. To the most proficient student in Latin at the end of the Freshman Year.
  4. To the best writer of Themes in the Freshman Class.
  5. To the member of the Senior or Junior Class who shall have done the most thorough and satisfactory work in Biology.
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THE CLASS OF 1898 PRIZE IN CHEMISTRY.

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The Class of 1898 offers a prize of \$10 in books to the member of either the Senior or Junior Class who, in the judgment of the Professor in Charge, shall have done the most thorough and satisfactory work during the year in the laboratory, quizzes and examinations.

This prize will not be awarded twice to the same student.

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HONORS.

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For the purpose of Honors, studies are divided as follows :

- a.* Literary studies : namely, the Greek, Latin, German and French Languages, English Literature, History, Philosophy, and Political Science.



*b.* Scientific studies : namely, Astronomy, Biology, Chemistry, Engineering, Mathematics, and Physics.

Candidates for Honors shall elect from any two studies in one of these groups at least five hours per week during the Junior year, and eight hours per week during the Senior year, and shall make their announcements of candidacy at the beginning of the Junior year.

*Highest Honors* and *Honors* may be given, dependent on the judgment of the professors immediately interested. They will base their decision on special examinations, or the character of the daily work.

Honors shall be announced at Commencement and in the succeeding catalogue.

## LIBRARY.

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LIBRARIAN, Professor Allen C. Thomas ; ASSISTANTS, Helen Sharpless,  
William Warder Cadbury, A. B.

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The number of bound volumes in the Library of Haverford College is 34,806. Numerous American and European periodicals, scientific and literary, are taken by the Library.

About \$1,500 yearly are expended for the purchase of books and periodicals.

The Library is open as a reading-room from 8.30 A. M. to 6 P. M., during which time the volumes in the alcoves may be freely consulted. The Librarian devotes stated hours each week to the purpose of assisting and directing students in their reading, and in the intelligent use of books of reference and of authorities. He also arranges courses of reading.

## CHEMICAL LABORATORY.

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DIRECTOR, Dr. Lyman B. Hall.

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The Laboratory Work comprises elementary experiments in General Chemistry ; an extended study of the more important elements and their compounds ; qualitative and quantitative analysis ; the preparation of pure compounds, and experimental work illustrating chemical laws and theories.

Students may substitute for the last two years of the Scientific Course a special course in Chemistry, embracing both theory and laboratory work.

Opportunity is given for elementary or advanced special work, with ample facilities for its prosecution.

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## PHYSICAL LABORATORY.

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DIRECTOR, Prof. Levi T. Edwards.

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The Physical Laboratory occupies five rooms, and is well equipped for work in the different departments of Physics. The apparatus has been selected with especial reference to quantitative rather than qualitative work, and includes in every department exact standards. The department of electricity has been exceptionally well equipped.

The students are instructed in the accurate measurement of various physical quantities in mechanics, heat, light, and electricity. They are also assigned a certain amount of qualitative work leading up to a more intimate knowledge of the properties of matter.

The work of the more advanced students is supplemented by reading in the foreign and domestic scientific journals which are accessible in the Library.

A number of valuable standard instruments in electricity have recently been purchased.

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## BIOLOGICAL LABORATORY.

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DIRECTOR, DR. H. S. Pratt.

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The Biological Laboratory is well equipped with reagents and with microscopes and all the other necessary apparatus and appliances. It contains also about two hundred recent biological works and zoological and botanical charts.

The work consists of courses in General Zoology and Botany, followed by thorough courses in invertebrate and vertebrate morphology, histology and embryology.

Students who have completed the courses prescribed may elect advanced work or carry on special investigation.

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## MUSEUM.

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CURATOR, DR. H. S. Pratt.

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The museum contains a large collection of native and foreign birds and birds' eggs ; a conchological collection ; a collection of fossils ; and a large collection of rocks and minerals. It contains also an herbarium in which about 3000 species are represented.

## MECHANICAL LABORATORY.

DIRECTOR, Prof. Levi T. Edwards.

The Engineering Department occupies a new stone building, three stories high, erected during the summer of 1896. The entire equipment is new and of the best quality. The Wood-working Department affords accommodation for fourteen students at one time. The benches are provided with quick action vises and a complete set of carpenter's tools for each student. This shop contains a 36" band saw and two wood lathes. The Iron-working Department contains a 24" x 12' Blaisdell engine-lathe and three smaller engine-lathes; a 24" x 24" x 6' planer; a Gould & Eberhardt 16" shaper; two drill-presses; several vises and complete sets of machinists' tools for bench work. Three steam engines, two of which are tandem compounds directly coupled to 60 K. W. dynamos, together with indicators and electrical measuring instruments afford good opportunity for engine and dynamo testing. The third story of the building is devoted to drawing, and is a commodious and well-lighted room.

The instruction begins with a series of graded exercises, which teach accuracy in the use of tools and illustrate the principles of machine construction. This is followed by practice in the construction of parts of machinery and the building of complete machines.

The students, under the care of the Director, are taken from time to time to visit machine shops and engineering constructions in Philadelphia and vicinity.

## ASTRONOMICAL OBSERVATORY.

DIRECTOR, William H. Collins.

THE HAVERFORD OBSERVATORY affords students the means of becoming familiar with the use of astronomical instruments, and

of acquiring, from actual observation, a practical acquaintance with Astronomy.

It contains two Equatorial Telescopes, one, by Clark, having an object-glass 10 inches in diameter, and one with an object-glass of  $8\frac{1}{4}$  inches, with filar micrometer and eye-pieces; a polarizing eye-piece; a Newtonian Reflector, with a silver-on-glass speculum of  $8\frac{1}{4}$  inches diameter; a Prism Spectroscope; a Meridian Transit Circle having a Telescope of  $3\frac{3}{4}$  inches aperture, with a circle at each end of the axis 26 inches in diameter; a Zenith Instrument of  $1\frac{3}{4}$  inches aperture, with a micrometer; two Sidereal Clocks, one with mercurial compensation, the other used to connect with a Bond's Magnetic Chronograph.

The latitude of the Observatory is  $40^{\circ} 0' 40''$  N.; its longitude, 6 minutes 59.4 seconds east from Washington.

A Special Course in Astronomy is offered to amateurs and teachers. The requisites for the course and the fees charged will depend on the work which the applicant desires to perform.

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## THE GYMNASIUM.

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DIRECTOR, James A. Babbitt, M. D.

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THE GYMNASIUM has been refitted with several improved gymnastic appliances, and now includes in its equipment rowing, sculling, and wrist machines, chest weights, striking-bag and drum, and the necessary apparatus for the gymnastic game of basket-ball.

The Director gives systematic instruction, based upon careful physical examination. Extensive additions have been made for this purpose in the anthropometric equipment.

Required work begins Twelfth month 1st and ends Fourth month 1st, and occupies four periods each week.

It is arranged in two courses, each occupying one winter.

Students entering the Freshman class are required to take the two courses, one each year; and divisions for advanced work are

formed of those giving evidence of previous systematic gymnasium drill.

Students entering the Sophomore class are required to complete one course with a similar privilege of advanced standing.

While the work is required of the two lower classes only, it is elective for the upper classes, and it is expected that the majority of their members will take advantage of the advanced courses arranged.

A special course has been inaugurated, based upon and closely following the rules of the Swedish Educational System. This physical course is elective to all classes and occupies three periods per week.

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## SOCIETIES.

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THE LOGANIAN SOCIETY was established by the Officers and students in 1834, and is now a Debating Society.

THE EVERETT-ATHENÆUM is a literary society of the students.

A flourishing branch of the YOUNG MEN'S CHRISTIAN ASSOCIATION exists at the College.

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## DEGREES, PRIZES AND HONORS GRANTED IN 1898.

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At the Commencement in 1898, Degrees were granted after examinations to the following graduates :

### BACHELOR OF ARTS.

JAMES EDGAR BUTLER	OSCAR PEYTON MOFFITT
WILLIAM WARDER CADBURY	SAMUEL RHOADS
ALFRED SHARPLESS HAINES	ALFRED GARRETT SCATTERGOOD
JOSEPH HOWELL HAINES	FREDERICK STADELMAN
ARTHUR SEARCH HARDING	IRA ISBON STERNER
SAMUEL HORACE HODGIN	FREDERICK ASA SWAN
WALTER COGGESHALL JANNEY	ROBERT NORTH WILSON
MORRIS MATTHEWS LEE	THOMAS WISTAR
RICHARD DAVIS WOOD	

## BACHELOR OF SCIENCE.

RICHARD STANTON ELLIS

JOHN GYGER EMBREE

DAVIS GODFREY JONES

ELDON ROXY ROSS

FRANCIS REEVES STRAWBRIDGE

JOSEPH WRIGHT TAYLOR

## MASTER OF ARTS.

WARREN HALLMAN DETWILER

OTTIS EARL MENDENHALL

JOSEPH REMINGTON WOOD

## PRIZES.

*The Haverford Fellowship (\$500) for 1898-9, to*

MORRIS MATTHEWS LEE

*The Alumni Prize in Composition and Oratory (\$50), to*

ARTHUR CLEMENT WILD

*The Everett Society Medal for Oratory for Sophomores and Freshmen, to*

HERBERT SYDNEY LANGFIELD

*The John B. Garrett Prizes for Systematic Reading for Juniors, to*

First Prize (\$60.00), . . . J. EDGAR BUTLER

Second Prize (\$40), . . . Not Awarded.

*The Class of 1870 Prize for Composition, to*

ALFRED SHARPLESS HAINES

*The Class of 1896 Prizes in Latin and Mathematics for Sophomores and Freshmen, to*

Latin (\$10.00), . . . HENRY SANDWITH DRINKER, JR.

Mathematics (\$10.00), . . . FRANK EUGENE LUTZ

*The Philip C. Garrett Prizes, to*

For Senior Mathematics (\$10.00), . . . IRA IBSON STERNER

For Freshman Latin (\$10.00)

HOWARD VALENTINE BULLINGER, E. MARSHALL SCULL

## HONORS.

General Honors, . . . Not awarded.

Highest Honors in Mathematics, . . . IRA IBSON STERNER

Honors in Biology and Chemistry, . . . JOSEPH WRIGHT TAYLOR

Honors in English and French, . . . MORRIS MATTHEWS LEE

# LIST OF GRADUATES AND HONORARY DEGREES.

(Degrees conferred by other institutions are indicated by *italics*.)

THE ONLY DEGREE GRANTED ON GRADUATION BEFORE 1877 WAS THAT  
OF BACHELOR OF ARTS.

## GRADUATES.

1836

\*Thomas F. Cock, *M.D.*, LL. D., \*1896  
\*Joseph Walton, \*1898

1837

\*William C. Longstreth, \*1881  
\*David C. Murray, \*1885  
\*Lindley Murray, \*1897  
\*Benjamin V. Marsh, \*1882  
\*Joseph L. Pennock, \*1870  
\*Robert B. Parsons, \*1898  
\*Charles L. Sharpless, \*1882  
\*Lloyd P. Smith, A. M., \*1886  
\*B. Wyatt Wistar, \*1869

1838

\*James V. Emlen, *M. D.*, \*1880  
\*John Elliott, \*1893

1839

\*Frederick Collins, \*1892  
Thomas P. Cope  
\*Henry Hartshorne, *M. D.*, A. M.  
*LL.D.* \*1897  
Richard Randolph, Jr., *M. D.*  
\*Charles Taber \*1887

1840

\*Joseph Howell, \*1889  
Anthony M. Kimber  
\*Henry H. G. Sharpless, \*1870  
\*John R. Winslow, *M.D.*, \*1866

1841

\*Richard H. Lawrence, \*1847  
\*James P. Perot, \*1872  
\*Elias A. White, \*1866

1842

Robert Bowne  
\*Richard Cadbury, \*1897  
\*William S. Hilles, \*1876  
\*Thomas Kimber, Jr., LL. D., \*1890  
\*James J. Levick, *M.D.*, A. M., \*1893  
Edmund Rodman, A. M.  
Thomas R. Rodman, *A. B.*  
Benjamin R. Smith  
\*Augustus Taber, \*1898  
\*Caleb Winslow, *M. D.* \*1895

1843

Robert B. Howland  
Francis White  
\*William D. Stroud, *M. D.*, \*1883

1844

Evan T. Ellis  
\*Robert B. Haines, \*1895  
Isaac Hartshorne

1845

\*Edmund A. Crenshaw, \*1894  
\*Robert Pearsall, \*1849

1849

Albert K. Smiley, A. M.  
Alfred H. Smiley, A. M.

1851

Joseph L. Bailey  
Philip C. Garrett  
Thomas J. Levick  
Franklin E. Paige, A. M.



Zaccheus Test, *M. D.*, A. M.  
 \*James C. Thomas, *M.D.*, A. M., \*1897  
 Richard Wood

1852

\*Dougan Clark, *M. D.*, \*1896  
 Lewis N. Hopkins  
 William L. Kinsman  
 William E. Newhall  
 \*James Whitall, \*1896

1853

William B. Morgan, A. M.  
 \*William H. Pancoast, *M. D.*, A. M.,  
 \*1897

1854

\*Frederick Arthur, Jr., \*1891  
 John W. Cadbury  
 John B. Garrett  
 David Scull

1855

\*Samuel Bettle, \*1859  
 John R. Hubbard, A. M.

1856

Bartholomew W. Beesley  
 Joel Cadbury, Jr.  
 Jonathan J. Comfort, *M. D.*  
 \*James M. Walton, \*1874  
 Edward R. Wood, A. M.

1857

Jesse S. Cheyney, A. M.  
 \*Cyrus Mendenhall, \*1858  
 Stephen Wood

1858

\*Thomas H. Burgess, \*1893  
 Thomas Clark  
 \*Daniel W. Huut, \*1898  
 Samuel T. Satterthwaite, \*1865  
 William G. Tyler  
 Thomas Wistar, A. M., *M. D.*  
 Ellis H. Yarnall, *LL.B.*

1859

\*Richard W. Chase, \*1865  
 James R. Magee  
 \*Richard C. Paxson, \*1864  
 \*Edward Rhoads, *M. D.*, \*1871  
 Edward C. Sampson

\*George Sampson, \*1872  
 Abram Sharples, *M. D.*  
 Benjamin H. Smith

1860

\*Lindley M. Clark, \*1861  
 \*William B. Corbit, *M. D.*, \*1872  
 \*William M. Corlies, \*1881  
 Cyrus Lindley  
 Theodore H. Morris  
 Frederick W. Morris  
 Richard Pancoast  
 \*John W. Pinkham, *M. D.*, \*1894  
 Francis Richardson  
 Clement L. Smith, A. M., *LL.D.*  
 James Tyson, *M. D.*, A. M.  
 Silas A. Underhill, *LL.B.*

1861

Edward Bettle, Jr.  
 \*Henry Bettle, \*1886  
 \*Charles Bettle, \*1883  
 William B. Broomall  
 Charles H. Jones  
 \*Thomas W. Lamb, A. M., *M. D.*,  
 \*1878  
 William N. Potts  
 Jehu H. Stuart, A. M., *M. D.*  
 John C. Thomas

1862

Henry T. Coates, A. M.  
 \*Samuel A. Hadley, \*1864  
 Horace G. Lippincott  
 George B. Mellor  
 Horace Williams, *M. D.*  
 \*Isaac F. Wood, \*1895

1863

Thomas J. Battey, A. M.  
 \*George M. Coates, Jr., A. M., \*1894  
 William M. Coates  
 \*Richard T. Jones, \*1869  
 William H. Morris  
 Joseph G. Pinkham, *M. D.*, A. M.

1864

\*Franklin Angell, A. M., \*1882  
 \*William Ashbridge, *M. D.*, \*1884  
 Edward H. Coates  
 Howard M. Cooper, A. M.  
 Albin Garrett

Morris Longstreth, *A. B., M. D., A. M.*

\*Albert Pancoast, \*1898

Charles Roberts

\*E. Pope Sampson, \*1893

\*Edward L. Scull, \*1884

\*Randolph Wood, \*1876

1865

John R. Bringlehurst

\*Edward T. Brown, \*1892

James A. Chase

Joseph M. Downing

Arthur Haviland

\*David H. Nichols, \*1865

Henry W. Sharpless

\*George Smith, Jr., \*1872

Robert B. Taber, A. M.

Allen C. Thomas, A. M.

Benjamin A. Vail

Caleb Cresson Wistar

1866

A Marshall Elliott, A. M.

Benjamin E. Valentine, *LL.B.*

1867

\*John Ashbridge, \*1881

George Ashbridge, A. M., *LL.B.*

William P. Clark, A. M., *LL.B.*

Samuel C. Collins, A. M.

Nathaniel B. Crenshaw

Charles H. Darlington, A. M.

\*William T. Dorsey, *M. D.*, \*1870

B. Franklin Eshleman

Richard M. Jones, A. M., *LL.D.*

\*Charles W. Sharpless, \*1889

Walter Wood

1868

Edward H. Cook

\*Alexis T. Cope, \*1883

Benjamin C. Satterthwaite

Louis Starr, *M. D.*

S. Finley Tomlinson

Joseph H. Wills, A. M., *M. D.*

1869

Johns H. Congdon

Henry Cope, A. M.

\*Ludovic Estes, *A. M., Ph.D.*, \*1898

\*Henry Evaul, A. M., \*1877

\*William B. Kaighn, \*1876

Pendleton King, A. M.

William H. Randolph

Edward B. Taylor, *M. C. E.*

William S. Taylor

James G. Whitlock

Walter Wood

Henry Wood, *Ph.D.*

1870

J. Stuart Brown

John E. Carey

Alford G. Coale

Howard Comfort

T. Allen Hilles

William H. Hubbard, *M. D.*

\*Thomas K. Longstreth, A. M.,

\*1883

Oliver G. Owen, A. M.

\*Charles E. Pratt, A. M., \*1898

David F. Rose

\*John D. Steele, \*1886

Charles Wood, A. M.

Stuart Wood, *Ph. D.*

1871

Henry G. Brown

\*William P. Evans, \*1893

John S. Garrigues

Reuben Haines, A. M.

William H. Haines

Joseph Hartshorne

Jesse F. Hoskins

Walter T. Moore

Ellis B. Reeves

Alfred R. Roberts

Charles S. Taylor

Edward D. Thurston

Randolph Winslow, *M. D.*, A. M.

1872

Richard Ashbridge, *M. D.*

Richard T. Cadbury, *A. B., A. M.*

James Carey, Jr., *LL.B.*

Thomas S. Downing, Jr.

Walter Erben

\*Thomas Roland Estes, \*1898

John E. Forsythe

William H. Gibbons, A. M.

Francis B. Gummere, *A. B., A.*

*M., Ph.D.*

Caspar Wistar Haines, \* A. M.,

C. E.

Abram Francis Huston

\*Marmaduke Cope Kimber, A. M.,

\*1877

William M. Longstreth

Richard H. Thomas, *M. D.*

1873

James C. Comfort  
 Thomas P. Cope, Jr.  
 George W. Emlen  
 Joseph M. Fox  
 Henry C. Haines  
 Benjamin H. Lowry, A. M.  
 Alden Sampson, A. M. *A. B. A. M.*  
 \*Julius L. Tomlinson, A. M., \*1890

1874

Edward P. Allinson, A. M.  
 John G. Bullock  
 James Emlen  
 Charles R. Hartshorne, *LL.B.*  
 Samuel E. Hilles  
 John B. Jones  
 \*Mahlon Kirkbride, \*1889  
 Theophilus P. Price  
 James B. Thompson  
 Joseph Trotter

1875

Edward K. Bispham  
 Alonzo Brown, A. M.  
 J. Franklin Davis, A. M.  
 Charles E. Haines  
 \*William Hunt, Jr., \*1898  
 Charles L. Huston  
 Harold P. Newlin  
 Walter W. Pharo  
 Charles E. Tebbetts  
 Miles White, Jr.

1876

Francis G. Allinson, A. M., *Ph. D.*  
 David S. Bispham  
 Reuben Colton  
 Henry W. Dudley  
 Seth K. Gifford, A. M.  
 L. Lyndon Hobbs, A. M.  
 Richard H. Holme  
 Thomas William Kimber, \*1885  
 Charles A. Longstreth  
 J. Whitall Nicholson  
 Percival Roberts, Jr.  
 Frank H. Taylor  
 Howard G. Taylor  
 \*Lewis A. Taylor, \*1881

1877

A. B.

Isaac W. Anderson  
 Frederic L. Bailly

Isaac Forsythe  
 James D. Krider  
 George G. Mercer, *LL.M., J.C.D.*  
 Wilson Townsend

S. B.

William F. Smith

1878

A. B.

Henry Bailly, *A. B., A. M.*  
 Albert L. Bailly  
 Francis K. Carey, *LL.B., A. M.*  
 Edward T. Comfort  
 Charles S. Crosman, *A. B., LL.B.*  
 Samuel Hill, *A. B.*  
 Lindley M. H. Reynolds  
 Daniel Smiley, Jr.  
 Henry L. Taylor, A. M., *M. D.*  
 John M. W. Thomas  
 George W. White

S. B.

Jonathan Eldridge  
 Edward Forsythe  
 Cyrus P. Frazier, *A. B.*  
 Robert B. Haines, Jr.  
 Henry N. Stokes, *Ph. D.*

1879

A. B.

Samuel Bispham, Jr.  
 \*Edward Gibbons, \*1891  
 John H. Gifford, *M. D.*  
 Francis Henderson, *LL. B.*  
 William C. Lowry  
 John B. Newkirk  
 John E. Sheppard, Jr., *M. D.*

1880

A. B.

Charles F. Brédé, A. M.  
 Charles E. Cox, *A. M.*  
 Josiah P. Edwards  
 James L. Lynch  
 Samuel Mason, Jr.  
 William F. Perry  
 Joseph Rhoads, Jr., A. M.

S. B.

William Bishop  
 Alexander P. Corbit  
 Charles E. Gause, Jr.  
 Edward M. Jones

1881

A. B.

William A. Blair, *A. M.*  
 A. Morris Carey  
 Levi T. Edwards, A. M.  
 Edward Y. Hartshorne  
 Isaac T. Johnson, A. M.  
 Edwin O. Kennard  
 Jesse H. Moore  
 William E. Page  
 Walter F. Price, A. M., *A. M.*  
 Thomas N. Winslow  
 John C. Winston

S. B.

Walter Brinton  
 William H. Collins, A. M.  
 Joseph Horace Cook  
 David H. Forsythe  
 Albanus L. Smith

1882

A. B.

George A. Barton, A. M., *A. M.*,  
*Ph.D.*  
 Isaac M. Cox  
 Richard B. Hazard  
 Wilnot R. Jones  
 \*Wilmer P. Leeds, \*1885  
 J. Henley Morgan  
 Edward Randolph

S. B.

John E. Coffin  
 Daniel Corbit  
 George L. Crosman  
 Frederick D. Jones  
 T. Chalkey Palmer  
 Lindley M. Winston

1883

A. B.

John Blanchard, *LL.B.*  
 Frank E. Briggs  
 George H. Evans  
 Francis B. Stuart  
 Bond V. Thomas  
 Thos. K. Worthington, *LL.B.*,  
*Ph.D.*

S. B.

William L. Bailly  
 Stephen W. Collins, *LL.B.*

D. William Edwards  
 William E. Scull

\*Samuel B. Shoemaker, *M.D.*, \*1893  
 John S. Spruance  
 W. Alpheus White  
 Charles H. Whitney  
 Louis B. Whitney

1884

A. B.

John Henry Allen, A. M.  
 Orren William Bates  
 Thomas Herbert Chase  
 William J. Haines  
 Arthur D. Hall  
 Charles D. Jacob  
 Alfred Percival Smith, *LL.B.*

S. B.

Louis T. Hill  
 Walter L. Moore  
 George Vaux, Jr., *LL.B.*

L. B.

Francis A. White

1885

A. B.

Samuel Bettie  
 Enos L. Doan  
 William T. Ferris  
 William S. Hilles  
 William T. Hussey  
 Arthur W. Jones, A. M.  
 Rufus M. Jones, A. M., *Litt. D.*  
 Joseph L. Markley, A. M., *A.M.*,  
*Ph.D.*  
 Marriott C. Morris  
 Augustus T. Murray, *Ph.D.*  
 Augustus H. Reeve  
 William F. Reeve  
 Isaac Sutton, *A. M.*, A. M.  
 Elias H. White, *LL.B.*  
 William F. Wickersham, A. M.

S. B.

Charles W. Bailly  
 John J. Blair  
 Thomas Newlin, A. M.  
 Theodore W. Richards, A. M.,  
*Ph.D.*

\*Matthew T. Wilson, \*1891

1886

A. B.

Jonathau Dickinson, Jr., A. M.  
Alexander H. Scott  
Horace E. Smith  
Edward D. Wadsworth., *LL.B.*

S. B.

\*Thomas W. Betts, \*1893  
Guy R. Johnson  
William S. McFarland  
\*Israel Morris Jr., \*1891  
William P. Morris  
Alfred M. Underhill, Jr.  
Wilfred W. White

1887

A. B.

J. Howe Adams, *M. D.*  
Edward B. Cassatt  
William H. Futrell, *LL.B.*  
Alfred C. Garrett, *A. B.*, *A. M.*,  
*Ph.D.*  
Henry H. Goddard, A. M.  
Willis Hatfield Hazard, *A. M.*, *Ph.D.*  
Barker Newhall, A. M., *Ph.D.*  
Jesse E. Phillips, Jr., A. M.  
Henry W. Stokes  
Frederic H. Strawbridge  
Richard J. White  
\*George B. Wood, \*1894  
William C. Wood

S. B.

\*Arthur H. Baily, \*1889  
Charles H. Bedell  
Allen B. Clement, A. M.  
Horace Y. Evans, Jr.  
Hugh Lesley  
\*William W. Trimble, \*1891

B. E.

P. Hollingsworth Morris

1888

A. B.

E. Morris Cox  
Howell S. England, A. M.  
Allison W. Slocum, A. M., *Ph.D.*  
Martin B. Stubbs, A. M., *Ph.D.*

S. B.

Charles H. Battey  
John C. Corbit, Jr.  
Morris E. Leeds  
William Draper Lewis, *LL. B.*  
*Ph.D.*

Henry V. Gummere, A. M., *A. M.*  
Francis C. Hartshorne, A. M.,  
*LL.B.*

Joseph T. Hilles  
George Brinton Roberts  
Joseph W. Sharp, Jr.

B. E.

Lawrence P. Beidelman  
Joseph E. Johnson, Jr. M. E.  
Frederick W. Morris, Jr.

Richard J. Morris

1889

A. B.

Robert C. Banes  
Thomas F. Branson, *M. D.*  
Charles H. Burr, Jr., A. M., *LL.B.*  
Thomas Evans  
Warner H. Fite, *Ph.D.*  
Warren C. Goodwin  
Victor M. Haughton  
Franklin B. Kirkbride  
Daniel C. Lewis  
Lawrence J. Morris  
William F. Overman  
Frank W. Pierson, A. M.  
Samuel Prioleau Ravenel, Jr.,  
*LL.B.*

Walter George Reade  
Lindley M. Stevens, A. M.  
John Stoddell Stokes  
\*Layton W. Todhunter, \*1889  
Frederick N. Vail, A. M.  
Gilbert C. Wood

S. B.

William R. Dunton, A. M., *M. D.*  
Arthur N. Leeds, A. M.  
J. Henry Painter  
David J. Reinhardt  
Frank E. Thompson, A. M.

B. E.

Herbert Morris

1890

A. B.

Edward M. Angell, *LL.B.*  
James Stuart Auchincloss

William G. Audenried, Jr.  
 Henry R. Bringham, Jr.  
 Charles T. Cottrell, A. M., *LL.B.*  
 Guy H. Davies  
 Robert E. Fox  
 Henry L. Gilbert, A. M., *Ph.D.*  
 William G. Jenkins  
 Thomas S. Kirkbride, Jr., *M. D.*  
 Johathan M. Steere, A. M.

S. B.

Thomas Amory Coffin  
 Percy S. Darlington  
 William M. Guilford, Jr.  
 John N. Guss  
 Edwin J. Haley, A. M.  
 Robert R. Tatnall, A. M., *Ph.D.*  
 Dilworth P. Hibberd, A. M., *LL.B.*  
 Alfred C. Tevis

B. E.

John F. Taylor Lewis  
 Edward R. Longstreth  
 William Percy Simpson  
 Ernest Foster Walton

1891

A. B.

Harry Alger  
 David H. Blair  
 Henry A. Todd

S. B.

William W. Handy  
 Arthur Hoopes  
 John Wetherill Hutton, A. M.  
 David L. Mekeel, M. E.  
 John Stokes Morris, A. M.  
 George Thomas, 3d.

1892

A. B.

Richard Brinton  
 I. Harvey Brumbaugh, *A. B.*  
 Benjamin Cadbury, A. M.  
 Joseph Henry Dennis  
 Warren H. Detwiler, A. M.  
 Rufus Hacker Hall  
 Walter Morris Hart, A. M.  
 Gilbert Joseph Palen, *M. D.*  
 Ralph Warren Stone  
 W. Nelson Loflin West, *LL.B.*  
 Stanley Rhoads Yarnall, A. M.

S. B.

Augustine W. Blair, A. M.  
 Egbert Snell Cary  
 Minturn Post Collins  
 Charles Gilpin Cook, A. M., *Ph.D.*  
 William Pearson Jenks  
 Franklin McAllister  
 John Wallingford Muir  
 William Hopkins Nicholson, Jr.  
 William Ellis Shipley  
 Joseph Remington Wood, *Ph.G.*,  
 A. M.

1893

A. B.

Leslie Adelbert Bailey, A. M.  
 \*John Farnum Brown, \*1894  
 Wilbur Albert Estes  
 Walter Winchip Haviland  
 Clarence Gilbert Hoag, *A. B.*  
 Carroll Brinton Jacobs, *LL.B.*  
 George Lindley Jones  
 Charles Osborne  
 Charles James Rhoads  
 Eugene M. Wescott  
 \*Franklin Whitall, \*1894  
 Gifford King Wright

S. B.

Francis F. Davis, A. M.  
 Arthur Villiers Morton  
 John Mickle Okie  
 Edward Rhoads  
 John Roberts  
 Barton Sensenig  
 William Sansom Vaux, Jr.  
 Edward Woolman

.1894

A. B.

George A. Beyerle  
 Charles Collins  
 William Wistar Comfort, *A. B.*,  
*A. M.*  
 John Allen DeCou, *A. B.*, A. M.  
 Clifford Bailey Farr, *M. D.*  
 John Paul Haughton  
 James Edward Hughes  
 Louis Jaquette Palmer  
 Frank Clayton Rex  
 Frederick Pearce Ristine  
 Francis Joseph Stokes  
 David Shearman Taber, Jr.  
 Parker Shortridge Williams

S. B.

J. Henry Bartlett  
 Oscar Marshall Chase, S. M.  
 Henry Shoemaker Conard, A. M.  
 George Brookhouse Dean  
 Kane Stovell Green  
 Anson Burlingame Harvey, A. M.  
     muel Wheeler Morris  
 Edward Entwisle Quimby  
 Henry Wismer Scarborough, A. M.,  
*LL.B.*  
 William Justus Strawbridge

1895

A. B.

Samuel Bettie, Jr.  
 Edmund Blanchard, Jr.  
 Samuel Hulme Brown  
 Frank Henry Conklin  
 Charles Howland Cookman  
 James Linton Engle  
 Joseph Spragg Evans, Jr.  
 Henry John Harris  
 George Lippincott, *A. B.*

S. B.

William Goodman, *A. B.*  
 Arthur Moorhead Hay  
 Erroll Baldwin Hay  
 William Smedley Hilles  
 John Bacon Leeds  
 Charles Clifford Taylor  
 Allen Curry Thomas, A. M.  
 Henry Evan Thomas  
 Walter Coates Webster

1896

A. B.

Douglas Howe Adams, *A. B.*  
 George Raymond Allen  
 Milton Clauser  
 Arthur Fernandez Coca  
 George Henry Deuell  
 Thomas Harvey Haines, A. M.  
 John Ashby Lester, A. M., *A. M.*  
 Paul D. I. Maier  
 Joseph Henry Scattergood, *A. B.*  
 Levi Hollingsworth Wood

S. B.

William Kite Alsop  
 William Henry Bettie  
 Samuel Kriebel Brecht  
 Mark Brooke

Albert Dempsey Hartley  
 Charles Russell Hinchman  
 John Quincy Hunsicker, Jr.  
 Samuel Middleton  
 Charles Dickens Nason  
 Marshall Warren Way  
 Homer Jephtha Webster, A. M.

1897

A. B.

Richard Cadbury Brown  
 Morton Pennock Darlington  
 Elliot Field  
 Vincent Gilpin, *A. B.*  
 Benjamin Rose Hoffman  
 Charles Henry Howson  
 John Elias Hume  
 Francis Norton Maxfield  
 Roswell Cheyney McCrea  
 Ottis Earl Mendenhall, A. M.  
 Warren Brown Rodney  
 Edward Thomas  
 Henry Alva White

S. B.

William John Burns  
 Morris Burgess Dean  
 Frank Hughes Detwiler  
 Francis Brinton Jacobs  
 George Martin Palmer  
 Charles Gibbons Tatnall  
 William Jordan Taylor  
 Frank William Thatcher

1898

A. B.

James Edgar Butler  
 William Warder Cadbury  
 Alfred Sharpless Haines  
 Joseph Howell Haines  
 Arthur Search Harding  
 Samuel Horace Hodgini  
 Walter Coggeshall Janney  
 Morris Matthews Lee  
 Richard Davis Wood  
 Oscar Peyton Moffitt  
 Samuel Rhoads  
 Alfred Garrett Scattergood  
 Frederick Stadelman  
 Ira Isbon Sterner  
 Frederick Asa Swan  
 Robert North Wilson  
 Thomas Wistar

S. B.

Richard Stanton Ellis  
John Gyger Embree  
Davis Godfrey Jones

S. B.

Eldon Roxy Ross  
Francis Reeves Strawbridge  
Joseph Wright Taylor

Whole number of graduates, 624.

The following graduate students have received Advanced Degrees, not having been undergraduates at Haverford :

1890

William B. Eaton, A. B., Wesleyan, 1889, A. M.  
Charles L. Michener, A. B., Penn, 1884, A. M.  
Charles E. Pritchard, A. B., Earlham, 1889, A. M.  
Robert W. Rogers, A. B., Johns Hopkins, 1887, Ph.D.  
William C. Sayrs, A. B., Wilmington, 1889, A. M.  
Charles E. Terrell, S. B., Wilmington, 1888, A. M.  
Charles H. Thurber, Ph.B., Cornell, 1886, A. M.

1891

Lawrence M. Byers, A. B., Penn, 1890, A. M.  
\*William H. Carroll, A. B., Wilmington, 1890, A. M., \*1897.  
Myron F. Hill, A. B., Harvard, 1890, A. M.  
Lucian M. Robinson, A. B., Harvard, 1882, A. M.

1892

Elmer A. Gifford, S. B., Penn, 1888, A. M.  
Byron Charles Hubbard, S. B., Earlham, 1891, A. M.

1893

Irving Culver Johnson, S. B., Penn, 1892, A. M.  
Leonard Charles Van Noppen, A. B., Guilford, 1890, B. L., Univ. N. C.  
1892, A. M.

1894

Franklin A. Dakin, A. B., Harvard, 1892, A. M.  
William W. Hastings, A. B. and A. M., Maryville, 1886 and 1892, A. M.  
Mahlon Z. Kirk, S. B., Penn, 1893, A. M.  
Arthur R. Spaid, A. B., Wilmington, 1893, A. M.  
Edwin Mood Wilson, A. B., Guilford, 1892, A. B. Univ. N. C., 1893, A. M.

1895

Ira O. Kemble, S. B., Penn, 1894, A. M.  
John Oscar Villars, S. B., Wilmington, 1894, A. M.  
Roy Wilson White, S. B., Earlham, 1894, A. M.

1896

James Addison Babbitt, A. B., Yale, 1893, A. M.  
Arthur Matthew Charles, S. B., Earlham, 1894, A. M.  
Horace Thornburg Owen, A. B., Hamilton, 1895, A. M.  
Luther Milton Hunt, S. B., Wilmington, 1895, A. M.  
Clement Finney Patterson, Ph.B., Penn, 1895, A. M.  
William W. Hastings, A. B. and A. M., Maryville, 1886, 1892, A. M.  
Haverford, 1894, Ph.D.

1897

William Otis Beal, S. B., Earlham, 1896, A. M.  
Frank Whittier Else, A. B., Penn, 1896, A. M.  
Paul Tasso Terrell, S. B., Wilmington, 1896, A. M.



## HONORARY DEGREES.

1858	1875
Hugh D. Vail, A. M.	*Samuel Alsop, Jr., A. M., *1888
1859	1876
*Joseph W. Aldrich, A. M., *1865	*Pliny E. Chase, LL.D., *1886
1860	*William H. Pancoast, A. M., *1897
*John G. Whittier, A. M., *1892	1877
1864	*John J. Thomas, A. M., *1895
*Edward D. Cope, A. M., *1897	1879
1867	Richard M. Jones, A. M.
Joseph Moore, A. M.	Ellis Yarnall, A. M.
1872	1880
William Jacobs, A. M.	*Thomas Chase, LL.D., *1892
1882	*Thomas Hughes, LL.D., *1896
Henry T. Coates, A. M.	1896
1883	Edward H. Magill, LL.D.
*Thomas F. Cock, LL.D., *1896	1887
James Wood, A. M.	*Thomas Kimber, LL.D., *1890
Henry N. Hoxie, A. M.	1888
1884	Clement L. Smith, LL.D.
*Joseph Parrish, A. M., *1893	1890
Elijah Cook, A. M.	Joseph J. Mills, LL. D.
1885	1891
*Julius L. Tomlinson, A. M., *1890	Richard M. Jones, LL.D.
Robert Howland Chase, A. M.	1895
	*Henry Trimble, A. M., *1898

HOLDERS OF THE HAVERFORD  
GRADUATE SCHOLARSHIP.

1889-90,	{ CHARLES H BURR,
	{ FRANK E. THOMPSON
1890-91,	DILWORTH P HIBBERD
1891-92,	DAVID LANE MEKEEL
1892-93,	STANLEY RHOADS YARNALL
1893-94,	FRANCIS F. DAVIS
1894-95,	HENRY S. CONARD
1896-97,	JOHN A. LESTER
1897	ABOLISHED

HOLDERS OF THE HAVERFORD  
FELLOWSHIP.

- 1897-98, JOHN ASHBY LESTER, at Harvard University.  
1898-99, MORRIS MATTHEWS LEE, at Harvard University.



# HAVERFORD COLLEGE.

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# Haverford College



1899-1900

THE PRESIDENT desires to place a copy of the Annual Catalogue in the hands of every alumnus and member of the corporation. It is requested that all omissions and errors, whether of names or degrees, be reported to the Secretary of the College.

CATALOGUE  
OF  
HAVERFORD COLLEGE  
HAVERFORD, PA.  
1899-1900



PHILADELPHIA  
PRESS OF THE LEEDS & BIDDLE CO.  
1019-21 MARKET STREET  
1899

## CALENDAR.

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### 1899-1900.

College Year 1899-1900 began.....	9th Mo.	27
Winter Recess begins.....	12th Mo.	23
Winter Term begins, 1900 *.....	1st Mo.	3
Second Half-year begins.....	2nd Mo.	2
Junior Exercises.....	4th Mo.	11
Spring Recess begins.....	4th Mo.	12
Spring Term begins *.....	4th Mo.	24
Examinations for Admission.....	6th Mo.	11-12
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Senior Class Day.....	6th Mo.	14
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### 1900-1901.

Examinations for Admission.....	9th Mo.	24-25
College Year 1900-1901 begins *.....	9th Mo.	26
Winter Recess begins.....	12th Mo.	22
Winter Term begins, 1901*.....	1st Mo.	2
Commencement Day, 1901.....	6th Mo.	14

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\* The first recitations at the beginning of each term are due promptly at *half-past nine o'clock*. No absences from them are excused, unless clearly unavoidable.



## HISTORY AND DESCRIPTION.

IN the spring of 1830, a meeting of a few Friends in Philadelphia, shortly followed by a similar meeting in New York, originated Haverford School. The joint committee expressed the object of the effort as follows: "The members of the Society of Friends, having hitherto labored under great disadvantages in obtaining for their children a guarded education in the higher branches of learning, combining the requisite literary instruction with a religious care over the morals and manners of the scholars, . . . and carefully preserving them from the influence of corrupt principles and evil-communications, it is therefore proposed that an institution be established in which the children of Friends shall receive a liberal education in ancient and modern literature, and the mathematical and other sciences."

The \$40,000 supposed to be necessary was raised without great effort, and the committee went out to seek a location. They say: "We wished to procure a farm in a neighborhood of unquestionable salubrity—within a short distance of a Friend's meeting—of easy access from this city at all seasons of the year . . . and that was recommended by the beauty of the scenery and a retired situation." They then go on to say that of the many places presented to them the only one which combined all the advantages was one of 198½ acres (since increased to 215), "near the eight-mile stone of the Lancaster Turnpike." They explain the present and prospective merits of the farm, the beauty of the natural woods, the unfailing springs of purest water, the nearness to the new Pennsylvania Railroad, in words which the succeeding half-century has amply justified.

On the 28th of Tenth month, 1833, the school opened with 21 students. Provision had been made for a superintendent and three teachers,—

"A Teacher of Ancient Languages and Ancient Literature.

"A Teacher of English Literature, and Mental and Moral Philosophy.

"A Teacher of Mathematics and Natural Philosophy."

The Superintendent was to have charge of the government, order, and domestic economy of the family.

The regulations of the new school were rigid. The bounds and time of the boys were very strictly marked out. All the details of the daily program were arranged with great care; and if the elaborate provision of a number of wise men for the normal growth of students could convert boys into perfect men, the students of sixty-five years ago had every advantage.

The High School thus established grew rapidly into prosperity and debt. The charges were low, the teachers were liberally paid, and the years which followed were marked by a constant endeavor to produce a maximum of good fruits from very limited funds. The deficiencies were made up in a liberal spirit, and a constant growth was maintained by frequent subscriptions. All the time the school was justifying the effort by the quality of its results, and making for itself an increasing number of friends.

One of the first acts of the committee, after absolute necessities were provided for, was to construct a gymnasium, and make arrangements for systematical physical work. They were determined that the advantage gained by the salubrity of the surroundings should not be lost for want of exercise. Under their care the lawn was graded at a great expense, and foreign and native trees set out, with the design to make it a great arboretum. Cricket, a game not known elsewhere in America, was introduced and has flourished since. A greenhouse and flower-garden were established and maintained for twenty years by the work of the boys. The idea that has done harm elsewhere, that schools are places for mental development only, had no foothold here; but morals, muscles, and senses received their due share of culture.

In 1845 a temporary suspension was decreed to allow the funds to accumulate and to give time for the collection of an endowment. This suspension lasted for three years. In 1852 the observatory

was built, and supplied with an 8-inch equatorial and a 4-inch transit. In 1856 the school was changed to a college, and was authorized by the legislature to grant degrees ; but previous to this time the course had been as extended as in most colleges. It was still hampered with a preparatory department, which was not abolished till 1861. In 1863 the Alumni Hall and Library were built. In 1876-7, Barclay Hall, containing private dormitories and study-rooms, was erected at a cost of \$82,000, which was collected by subscription. The Chemical Laboratories were improved in 1878. The new Observatory was built in 1883. The Mechanical Laboratory was established in 1884, and was provided with a new building in 1890. This was burned down in 1896, and a new three-story stone structure (Whitall Hall) built. The Biological Laboratory was established in 1886, and the Physical Laboratory in 1888. Chase Hall, for lectures and recitations, was built in 1888, and the Cricket Shed in 1893. The new Library Building and Alumni Hall were erected in 1898, and the first two sections of Lloyd Hall in 1899. Various donations and bequests were received during these years, and in 1897 was paid to the College the Jacob P. Jones endowment of about a million dollars.

During this time Haverford had developed into a fully-organized college. Many rules, adapted to boys of boarding-school age, had been modified or abandoned, though enough of restraint was retained to provide against demoralization. The standard of admission was raised. Students of any denomination were admitted, though Friends still retained the general control. The number of teachers was increased five-fold. By various donations and bequests the endowment fund was enlarged. The annual charge was increased from \$200 to \$500,\* which still fails to represent what the college has to pay for professors' salaries and the board and care of students. Retaining the old idea of a "guarded education" and "a religious care over morals and manners," the college has sought to effect these results, and has measurably succeeded, rather by appeals to Christian principle and manliness than by arbitrary power.

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\* The price may vary, depending on the situation of the room, from \$400 to \$600.

In Barclay and Lloyd Halls two students occupy a study-room, and each has his private adjoining bed-room. A few single rooms are also provided. Recitation-rooms, laboratories, and the dining-room are in Founders' Hall. The Library, which now contains about 36,000 volumes, and the Observatory, with valuable instruments, are housed in separate buildings. Some of the professors live in the halls with the students, and others have cottages on the grounds.

The college has a remarkably pleasant and healthful location in the township of Haverford, Delaware County,\* Pa., nine miles west of Philadelphia, on the main line of the Pennsylvania Railroad. The buildings are surrounded by grounds of about sixty acres, tastefully laid out, with a great variety of trees and shrubbery. The grounds comprise excellent fields for cricket, foot-ball, tennis, and other field games, a running and bicycle track, and a pond for skating.

The courses of study are designed to give a liberal education. Their scope will be seen on the following pages. Religious instruction is carefully provided. In addition to the daily reading of the Holy Scriptures, recitations in the English or Greek New Testament or in Scriptural History are required of the student once a week. By exposition and collateral information the instructors endeavor to enforce the true meaning of the lessons. Haverford College desires to inculcate the simple truths of the Christian religion.

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\* Haverford *Post Office* is in Montgomery County.

## CORPORATION.

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*President,*

T. WISTAR BROWN,

233 Chestnut Street, Philadelphia.

*Secretary,*

GEORGE VAUX, JR.,

Girard Building, Philadelphia.

*Treasurer,*

ASA S. WING,

409 Chestnut Street, Philadelphia.

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JONATHAN EVANS,  
SAMUEL L. ALLEN,

J. STOGDELL STOKES.

*Secretary of the Board,*

HOWARD COMFORT,

529 Arch Street, Philadelphia.

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*Executive Committee,*

JOHN B. GARRETT,  
DAVID SCULL,  
EDWARD BETTLE, JR.,  
PHILIP C. GARRETT,  
CHARLES ROBERTS,

JUSTUS C. STRAWBRIDGE,  
HOWARD COMFORT,  
ASA S. WING,  
RICHARD WOOD,  
JAMES WOOD.

## FACULTY.

ISAAC SHARPLESS, SC. D., LL. D., PRESIDENT,  
and Professor of Ethics.

ALLEN C. THOMAS, A. M., LIBRARIAN,  
and Professor of History.

\*LYMAN BEECHER HALL, PH. D.  
John Farnum Professor of Chemistry.

SETH K. GIFFORD, A. M.  
Professor of Greek.

LEVI T. EDWARDS, A. M.,  
Professor of Mechanics and Electricity.

WILLIAM COFFIN LADD, A. M.,  
Professor of French.

FRANCIS B. GUMMERE, PH. D.,  
Professor of English and German.

FRANK MORLEY, SC. D.,  
Professor of Pure Mathematics.

ERNEST WILLIAM BROWN, SC. D., F. R. S.,  
Professor of Applied Mathematics.

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\* Absent 1899-1900.

WILFRED P. MUSTARD, PH. D.,  
Professor of Latin.

WILLIAM H. COLLINS, A. M., PREFECT,  
and Director of the Observatory.

HENRY S. PRATT, PH. D.,  
Associate Professor of Biology (David Scull Foundation).

JAMES A. BABBITT, A. M., M. D., REGISTRAR,  
and Instructor in Physical Training.

RUFUS M. JONES, A. M., LITT. D.,  
Instructor in Philosophy.

OSCAR MARSHALL CHASE, S. M., COLLEGE SECRETARY,  
and Instructor in Drawing.

ALBERT S. BOLLES, PH. D., LL. D.  
Lecturer on Commercial Law and Banking.

DON C. BARRETT, A. M.,  
Instructor in Political Science and History.

ALBERT ELMER HANCOCK, PH. D.,  
Instructor in English and German.

GREGORY PAUL BAXTER, PH. D.,  
Instructor in Chemistry.

FREDERICK A. SAUNDERS, PH. D.,  
Instructor in Physics.

FRANK KELLER WALTER, A. B.,  
Assistant in German.

## STUDENTS.

## GRADUATE STUDENTS.

Loud, Frank Herbert, A. B. (Amherst), A.M. (Harvard), Colorado Springs, Colo.

Walter, Frank Keller, A. B. (Haverford), Point Pleasant, Pa.

## SENIOR CLASS.

Allen, Charles Jackson,	<i>Moorestown, N. J.,</i>	Mechanical Eng.
Allen, William Williams, Jr.,	<i>Greensboro, N. C.,</i>	Arts.
Bell, William Brown,	<i>New York, N. Y.,</i>	Arts.
Burdette, Robert Jones, Jr.,	<i>Bryn Mawr, Pa.,</i>	Arts.
Carter, Charles Henry,	<i>Lenape, Pa.,</i>	Arts.
Carter, John Pim,	<i>Germantown, Pa.,</i>	Arts.
Cope, Francis Reeve, Jr.,	<i>Germantown, Pa.,</i>	Arts.
Drinker, Henry Sandwith, Jr.,	<i>Haverford, Pa.,</i>	Arts.
Emlen, John Thompson,	<i>Germantown, Pa.,</i>	Arts.
Eshleman, Frank Mercur,	<i>Lancaster, Pa.,</i>	Arts.
Febiger, Christian,	<i>Philadelphia, Pa.,</i>	Mechanical Eng.
Freeman, Edward Dale,	<i>Warren, Pa.,</i>	Arts.
Hallett, Henry McLellan,	<i>Windham Centre, Me.,</i>	Arts.
Hiatt, James Smith,	<i>Richmond, Ind.,</i>	Arts.
Hinchman, Walter Swain,	<i>Philadelphia, Pa.,</i>	Arts.
Howson, Furnan Sheppard,	<i>Wayne, Pa.,</i>	Mechanical Eng.
Jenks, Horace Howard,	<i>Philadelphia, Pa.,</i>	Arts.
Justice, William Warner, Jr.,	<i>Germantown, Pa.,</i>	Science.
Levick, Henry Lewis d'Invilliers,	<i>Bala, Pa.,</i>	Arts.
Lloyd, John Eshleman,	<i>Germantown, Pa.,</i>	Special.
Lutz, Frank Eugene,	<i>Bloomsburg, Pa.,</i>	Arts.
Mifflin, Samuel Wright,	<i>Wayne, Pa.,</i>	Arts.
Moorhouse, J. Kennedy,	<i>St. Davids, Pa.,</i>	Arts.
Peelle, Jonathan Irving,	<i>Wilmington, O.,</i>	Science.
Sensenig, Heber,	<i>Spring Grove, Pa.,</i>	Arts.
Sharpless, Frederic Cope,	<i>Haverford, Pa.,</i>	Arts.
Tatnall, Abram Gibbons,	<i>Coatesville, Pa.,</i>	Science.
Taylor, Edward Ballinger, Jr.,	<i>Sewickley, Pa.,</i>	Arts.
Taylor, Joseph McFerran,	<i>Philadelphia, Pa.,</i>	Arts.
White, Wilfred Wallace,	<i>Oskaloosa, Iowa,</i>	Science.



## JUNIOR CLASS.

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Baltz, William Sagehorn,	<i>Whitford, Pa.,</i>	Mechanical Eng.
Bankard, Clarence Walton,	<i>Berwyn, Pa.,</i>	Arts.
Brown, Ellis Yarnall, Jr.,	<i>Downingtown, Pa.,</i>	Arts.
Bullinger, Howard Valentine,	<i>Philadelphia, Pa.,</i>	Arts.
Cadbury, John Warder,	<i>Philadelphia, Pa.,</i>	Arts.
Cadbury, William Edward,	<i>Germantown, Pa.,</i>	Arts.
De Armond, James Keyser,	<i>Merion, Pa.,</i>	Arts.
De Motte, Lawrence Washburn,	<i>Greencastle, Ind.,</i>	Arts.
Deweese, Aaron Lovett,	<i>Westtown, Pa.,</i>	Arts.
Fardon, Albert Henry,	<i>Reigate, England,</i>	Special.
Freeman, Alfred Edgar,	<i>Philadelphia, Pa.,</i>	Science.
Kirkbride, William Howard	<i>Philadelphia, Pa.,</i>	Science.
Mellor Walter,	<i>Philadelphia, Pa.,</i>	Mechanical Eng.
Neilson, William La Coste,	<i>Philadelphia, Pa.,</i>	Arts.
Patton, Richard	<i>Wayne, Pa.,</i>	Arts.
Rossmässler, Edward Collins,	<i>Germantown, Pa.,</i>	Mechanical Eng.
Scull, Edward Marshall,	<i>Overbrook, Pa.,</i>	Arts.
Sharp, Frederick William,	<i>Berwyn, Pa.,</i>	Arts.
Tomlinson, Alexander Cooper,	<i>Laurel Springs, N. J.,</i>	Special.
Walenta, George John,	<i>Philadelphia, Pa.,</i>	Arts.
Winslow, John Leiper,	<i>Baltimore, Md.,</i>	Arts.
Wirgman, William Wayne,	<i>Paoli, Pa.,</i>	Mechanical Eng.
Wood, Walter Hallock,	<i>Farmington, N. Y.,</i>	Arts.
Woodward, William Wellington,	<i>West Chester, Pa.,</i>	Arts.
Yearsley, Arthur Ralston,	<i>Coatesville, Pa.,</i>	Science.

## SOPHOMORE CLASS.

Balderston, Henry Lloyd,	<i>Colora, Md.,</i>	Mechanical Eng.
Barclay, Joseph John,	<i>Bedford, Pa.,</i>	Arts.
Boles, Edgar Howard,	<i>Ardmore, Pa.,</i>	Arts.
Brown, Shipley,	<i>Westtown, Pa.,</i>	Science.
Cary, Charles Reed,	<i>Charlottesville, Va.,</i>	Science.
Caswell, Andrew Bairs,	<i>Sanborn, Iowa,</i>	Arts.
Cookman, Arthur Shirley,	<i>Wilmington, Del.,</i>	Arts.
Dennis, William Varney,	<i>Dover, N. H.,</i>	Arts.
Ervien, Charles Richman,	<i>Philadelphia, Pa.,</i>	Mechanical Eng.
Evans, Charles,	<i>Norristown, Pa.,</i>	Arts.
Evans, Edward Wyatt,	<i>Germantown, Pa.,</i>	Arts.
Fox, John Sharpless,	<i>West Chester, Pa.,</i>	Arts.
Garrett, George Spencer,	<i>Lansdowne, Pa.,</i>	Science.
Grant, William Henry,	<i>Woonsocket, R. I.,</i>	Mechanical Eng.
Gummere, Richard Mott,	<i>Haverford, Pa.,</i>	Arts.
Hall, William Wilder,	<i>Roxbury, Mass.,</i>	Science.
Haviland, Joseph Bernard,	<i>Glens Falls, N. Y.,</i>	Arts.
Jones, Hudson Godfrey,	<i>Ardmore, Pa.,</i>	Arts.
Jones, S. Percy,	<i>Germantown, Pa.,</i>	Mechanical Eng.
Kirk, Edward Goodwin,	<i>West Chester, Pa.,</i>	Arts.
Longstreth, William Collins,	<i>Philadelphia, Pa.,</i>	Arts.
Newlin, Gurney Elwood,	<i>Los Angeles, Cal.,</i>	Arts.
Nicholson, Percival,	<i>Haverford, Pa.,</i>	Science.
Pusey, William Webb, II.,	<i>Wilmington, Del.,</i>	Special.
Reeder, John Wallace,	<i>Bellefonte, Pa.,</i>	Science.
Roberts, David Allen,	<i>Moorestown, N. J.,</i>	Mechanical Eng.
Ross, Robert John,	<i>Ardmore, Pa.,</i>	Special.
Scattergood, Herbert Armitt,	<i>West Chester, Pa.,</i>	Mechanical Eng.
Scott, Norris Alexander,	<i>Moylan, Pa.,</i>	Mechanical Eng.
Seiler, Carlino Linn,	<i>Lewisburg, Pa.,</i>	Mechanical Eng.
Sensenig, Wayne,	<i>Goodville, Pa.,</i>	Arts.
Spiers, Alexander Guy Holborn,	<i>Wayne, Pa.,</i>	Arts.
Stone, John Lyon,	<i>Warren, Pa.,</i>	Arts.
Stork, Charles Wharton,	<i>Germantown, Pa.,</i>	Arts.
Thomas, George Herbert,	<i>Philadelphia, Pa.,</i>	Arts.
Trout, Edgar Earl,	<i>Wayne, Pa.,</i>	Science.
Whiteley, Stockett Mathews,	<i>Baltimore, Md.,</i>	Special.
Wistar, Caspar,	<i>La Motte, Pa.,</i>	Special.
Wood, Alexander Cooper, Jr.,	<i>Cinnaminson, N. J.,</i>	Arts.
Woodward, Parke Lewis,	<i>West Chester, Pa.,</i>	Arts.

## FRESHMAN CLASS.

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Barr, Franklin Elverson,	<i>Camden, N. J.,</i>	Arts.
Bateman, Edwin Brooke,	<i>West Chester, Pa.,</i>	Mechanical Eng.
Baylis, Harry Milton,	<i>Berwyn, Pa.,</i>	Mechanical Eng.
Cadbury, Henry Joel,	<i>Philadelphia, Pa.,</i>	Arts.
Chambers, William Wilkie,	<i>Bryn Mawr, Pa.,</i>	Arts.
Cornman, Clarence Raymond,	<i>Merion Square, Pa.,</i>	Arts.
Dean, Archer Griffin,	<i>Cincinnati, O.,</i>	Science.
Dominovich, Harry Anthony	<i>Philadelphia, Pa.,</i>	Arts.
Drinker, James Blathwaite,	<i>Haverford, Pa.,</i>	Arts.
Duerr, Otto Eugene,	<i>Bryn Mawr, Pa.,</i>	Mechanical Eng.
Eshleman, Ulysses Mercur,	<i>Lancaster, Pa.,</i>	Arts.
Garrigues, Henry Haydock,	<i>Haverford, Pa.,</i>	Science.
Greb, John Walter,	<i>Philadelphia, Pa.,</i>	Arts.
Hoffman, Enoch Farson,	<i>Bryn Mawr, Pa.,</i>	Arts.
Kelsey, Cadwalader Washburn,	<i>Chestnut Hill, Pa.,</i>	Mechanical Eng.
Murphy, Eugene Besson,	<i>Philadelphia, Pa.,</i>	Science.
Peirce, George,	<i>Germantown, Pa.,</i>	Arts.
Phillips, Arthur John,	<i>Woonsocket, R. I.,</i>	Arts.
Philips, William Pyle,	<i>West Chester, Pa.,</i>	Arts.
Rabinowitz, Elias Nathan,	<i>Philadelphia, Pa.,</i>	Arts.
Schrag, Andrew D.,	<i>Mound Ridge, Kansas,</i>	Arts.
Simkin, Robert Louis,	<i>West Branch, N. Y.,</i>	Arts.
Snowdon, James Ross,	<i>Philadelphia, Pa.,</i>	Mechanical Eng.
Swift, Willard Everett,	<i>Worcester, Mass.,</i>	Mechanical Eng.
Tilney, Israel Sheldon,	<i>Orange, N. J.,</i>	Arts.
Wilson, Samuel Norman,	<i>Oxford, Pa.,</i>	Arts.
Worthington, Joseph Kent,	<i>Haverford, Pa.,</i>	Arts.

## SUMMARY.

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	124

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## ADMISSION.

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**Candidates for the Freshman Class are admitted only on examination.**

Examinations are held twice a year, in the Sixth and Ninth months.

They will be at the College, except in the case of distant candidates for whom special arrangements may be made.

In 1900 the dates will be as follows:—

*Sixth month 11th, and Ninth month 24th.*

9-10	{	Latin Composition	1½-3	Algebra.
		Elementary Physics	3-4	Plane Geometry.
10-11		Latin Prose Authors	4-5	{ Greek Composition
				{ Solid Geometry.
11-12	{	Latin Poets.		
		English History.		

*Sixth month 12th, and Ninth month 25th.*

9-11	{ Greek Authors, French.	1½-3½	German.
11¼-12¾	English.	3½-4½	{ Greek History. U. S. History.
		4½-5½	Roman History.

A candidate may pass a preliminary examination in some of his studies, and be examined in the remaining studies in a subsequent year. A certificate will be given for the studies passed. No student will be admitted to a preliminary examination without a certificate of preparation from his teacher, specifying the subjects in which he is prepared.

Candidates for Corporation scholarships (see page 30) must take all their examinations not later than the Sixth month of the year of entry. Such candidates should announce their intention at least two weeks before the time of examination.

#### SUBJECTS FOR EXAMINATION.

For all Candidates :

##### ENGLISH.\*

1. *Reading*.—A certain number of books will be set for reading. The candidate will be required to present evidence of a general knowledge of the subject-matter. The form of examination will usually be the writing of a paragraph or two on each of several topics, to be chosen by the candidate from a considerable number set before him in the examination paper. The treatment of these topics should show the candidate's power of clear and accurate expression, and will call only for a general knowledge of the substance of the books. In place of this test, the candidate may present an exercise book, properly certified by his instructor, con-

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\* NOTE.—No candidate will be accepted in English, whose work is notably defective in point of spelling, punctuation, idiom, or division into paragraphs.

taining compositions or other written work done in connection with the reading of the books.

The books set for this part of the examination will be :

1900 : Dryden's *Palamon and Arcite* ; Pope's *Iliad*, Books I and XXII ; The *Sir Roger de Coverley Papers* in *The Spectator* ; Goldsmith's *Vicar of Wakefield* ; Scott's *Ivanhoe* ; DeQuincey's *Flight of a Tartar Tribe* ; Cooper's *Last of the Mohicans* ; Tennyson's *Princess* ; Lowell's *Vision of Sir Launfal*.

1901 : George Eliot's *Silas Marner* ; Pope's translation of the *Iliad* (Books I, VI, XXII, and XXIV) ; The *Sir Roger de Coverley Papers* in *The Spectator* ; Goldsmith's *Vicar of Wakefield* ; Scott's *Ivanhoe* ; Shakspeare's *Merchant of Venice* ; Cooper's *Last of the Mohicans* ; Tennyson's *Princess* ; Coleridge's *Rime of the Ancient Mariner*.

II. *Study and Practice*.—This part of the examination presupposes the thorough study of each of the works named below. The examination will be upon the subject-matter, style and construction.

The books set for this part of the examination will be :

1900 : Shakspeare's *Macbeth* ; Milton's *Paradise Lost*, Books I and II ; Burke's speech on *Conciliation with America* ; Macaulay's *Essays on Milton and Addison*.

1901 : Shakspeare's *Macbeth* ; Milton's *L'Allegro, Il Penseroso, Comus*, and *Lycidas* ; Burke's speech on *Conciliation with America* ; Macaulay's *Essays on Addison and Milton*.

MATHEMATICS.—*Algebra*, including quadratic equations and radicals ; *Plane Geometry*. *Solid Geometry* will be required of all students not presenting Greek.

SCIENCE.—Elementary Physics will be required of all students presenting neither Greek nor Latin.

HISTORY.—Any two of the following may be offered, except for the Course in Arts, for which Greek and Roman History will be required.

1. Greek History to the death of Alexander.
2. Roman History to the death of Marcus Aurelius.
3. English History.
4. American History, including the period of Discovery and Colonization.

TWO OF THE FOLLOWING LANGUAGES : \*

*Greek*.—(a) Xenophon, the *Anabasis*, Books I-IV ; Homer, the *Iliad*, Books I-III, omitting the Catalogue of Ships. [The examination will be designed to test the candidate's knowledge of grammatical forms and constructions, and his ability to translate into idiomatic English]. (b) The translation at sight of simple Attic prose. (c) The translation into Greek of a simple English passage, based upon some portion of the Xenophon prescribed.

*Latin*.—(a) Cæsar, the *Gallic War*, Books I-IV ; Cicero, the speech on the *Manilian Law*, the four against Catiline, and the speech of Archias; Virgil, the *Æneid*, Books I-VI. [The examination will be designed to test the candidate's knowledge of grammatical forms and constructions, and his ability to translate into idiomatic English]. (b) The translation at sight of simple Latin prose or verse. (c) The translation into Latin of a simple English passage, based upon some portion of the Cicero or Cæsar prescribed.

*German*.—(a) The translation at sight of ordinary simple German prose. The passages set for translation must be rendered into simple idiomatic English.

(b) The translation into German of simple English sentences or of easy, connected prose, to test the candidate's familiarity with the grammar. Proficiency in grammar may also be tested by direct questions.

The passages set for translation into English will be suited to the proficiency of candidates who have read not less than three

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\* NOTE—Of all candidates for the Bachelor of Arts degree *either* Greek *or* Latin will be required. Of all candidates for admission to the Engineering course one language only will be required.

hundred pages (including reading at sight in class) from the works of at least three different authors. Suggestions as to authors or books will be given if desired.

*French.*—(a) The translation at sight of ordinary Nineteenth Century French. The passages set for translation must be rendered into simple idiomatic English.

(b) The translation into French of simple English sentences or of easy, connected prose, to test the candidate's familiarity with the grammar. Proficiency in grammar may also be tested by direct questions.

The passages set for translation into English will be suited to the proficiency of candidates who have read not less than four hundred pages (including reading at sight in class) from the works of at least three different authors. Suggestions as to authors or books will be given if desired.

Equivalents will be accepted in all the linguistic requirements.

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Students not able to pass all the examinations may be admitted with a few conditions.

Students not candidates for a degree may, at the discretion of the Faculty, be permitted to pursue special courses, for proficiency in which certificates may be granted; but this permission will be given only to students of sufficient ability and character to insure their success.

Candidates may be admitted to advanced classes if found fitted in all the preliminary studies of the course. Each case will be considered on its own merits.

Each candidate must forward, together with his application, a certificate of good moral character from his last teacher; and students from other colleges must present certificates of honorable dismissal.



## COURSES OF INSTRUCTION.

There are three courses :—

1. *Course in Arts*, leading to the degree of *Bachelor of Arts*.
2. *Course in Science*, leading to the degree of *Bachelor of Science*.
3. *Course in Mechanical Engineering*, leading to the degree of *Bachelor of Science*.

The first two of these courses are combined in the following table.

Students must continue for two years the languages presented on admission. The degree of Bachelor of Arts will be given only to a student who takes either Latin or Greek.

## COURSE IN ARTS AND COURSE IN SCIENCE.

## FRESHMAN YEAR.

1. *Scripture*. General outline of the history and literature of the Bible. One hour a week.
2. *English*.—A. S. Hill, *Foundations of Rhetoric*; English Literature; Themes. Two hours a week.
3. *History of England*. Lectures and required readings. Two hours a week.
4. *Mathematics*. Hall and Knight's *Higher Algebra*; *Trigonometry*; *Solid Geometry*; *Geometrical Conic Sections*; *Elementary Dynamics*. Four hours a week.
- 5 and 6. Two of the following languages:
  - a. *Greek*. Lysias, *Select Orationes*; Herodotus, *Selections*; Homer, *Selections*; Translation at sight; Greek Composition. Four hours a week.
  - b. *Latin*. Cicero, *Fourth Verrine*; Virgil, *Bucolics and Georgics*, Bk. iv.; Livy, Bks. xxi., xxii.; Translation at sight; Prose Composition. Four hours a week.

- c. *German*. A Course in Rapid Reading. Class Readings: *Der Fluch der Schönheit, Minna von Barnhelm, Wilhelm Tell, Hermann und Dorothea, Ekkehard*. Sight Readings: *Er sucht einen Vetter, Sie hat ihr Herz Entdeckt, Die Journalisten*. Collateral Readings: *Das kalte Herz, Waldnovellen, Höher als die Kirche, Undine*. Four hours a week.
- d. *French*. Nineteenth Century; Daudet, Sandeau, Lamartine, Hugo, Dumas, Mérimée, Loti. Seventeenth Century; La Fontaine, Corneille, Racine, Molière. History of French Literature (XVII-XIX Centuries); Composition. Four hours a week.
7. *Physical Training*. Physiology and Hygiene—First Quarter; Gymnasium Work—Second and Third Quarters.

## SOPHOMORE YEAR.

1. *Scripture*. Greek or English New Testament. One hour a week.
2. *English*. Readings in English literature; Lectures; Themes; Extemporaneous Speeches. Two hours a week.
3. *Mathematics*. Plane Analytical Geometry. Four hours a week the first half-year.

Students taking both Greek and Latin may substitute for Mathematics four hours of elective classics or of German.

- 4 and 5. Two of the following languages:

- a. *Greek*. Plato, *Apology* and *Crilo*, or *Phaedo*; Æschylus, *Prometheus*; Euripides, *Alcestis*; Translation at sight (Xenophon, *Memorabilia*); Exercises in writing Greek; Thucydides, *Selections*. Three hours a week.
- b. *Latin*. Tacitus, *Germania* and *Agricola*; Pliny, *Selected Letters*; Horace, *Odes* and *Epodes*; Translation at sight; Mackail's *Latin Literature*. Three hours a week.
- c. *German*. (1) Goethe, *Faust, Iphigenie*, and *Aus Meinem Leben*; Freytag, *Aus dem Staat Friedrichs des Grossen*; Private Reading; Lectures on German Literature. Three hours a week.  
(2) German Scientific Prose. Selections in Philosophy, Biology, Chemistry, etc. Sight Readings. Private reading with reports. Two hours a week.
- d. *French*. General view of the Literature of the Seventeenth, Eighteenth, and Nineteenth Centuries; Corneille, *Polyeucte*; Racine, *Phèdre*; Molière, *Les Précieuses Ridicules, Le Misanthrope, Le Tartuffe*; Pascal, *Pensées*; Bossuet, *Oraison funèbre de Henriette d'Angleterre*; Regnard, *Le joueur*; Voltaire, *Zaïre*; J.-J. Rousseau, *Morceaux Choisis*; Marivaux, *Le jeu de l'amour et du hasard*; Beaumarchais, *Le Mariage de Figaro*; Chateaubriand, *Atala*; A. de Musset, *On ne badine pas avec l'amour*; Victor Hugo, *Poésies; Les Misérables*; Balzac, *Eugénie Grandet*; George Sand, *Les Maîtres Sonneurs*; Daudet, *Tartarin de Taras-*

*con*; Augier, *Le Gendre de Monsieur Poirier*. In connection with this course the students will be required to read Petit de Julleville's *Leçons de Littérature Française* for a survey of the history of French literature from its origin to the present day. Three hours a week.

6. *Physics*. Elementary Physics, Lectures and Laboratory Work. Four hours a week the first half-year.

7. *Chemistry*. Elementary General Chemistry, Lectures and Laboratory Work. Four hours a week the second half-year.

NOTE.—In all such cases the number of recitations, or their equivalent in laboratory work, is given—one hour of recitation being supposed equivalent to two and a half hours of laboratory.

8. The student will also elect one of the following the second half-year.

a. *Mathematics*. Calculus. Four hours a week.

b. *Elementary Biology*. Lectures and Laboratory Work. Five hours a week.

9. *Physical Training*. Gymnasium Work.

#### JUNIOR YEAR.

1. *Scripture*. One hour a week.

2. *Political Science*. Economics—Preliminary Course: Bullock, *Introduction to the study of Economics*; Hadley, *Economics*; Lectures. Two hours a week.

3. *Philosophy*. Logic and Psychology. Two hours a week.

4. *Themes*.

5. *Elective Studies* from the lists on pages 23-26, subject to the limitations in the following notes. Ten hours a week.

*Note 1.* All students shall have had, before graduation, at least one year (three hours) each of German and French.

*Note 2.* All candidates for the Bachelor of Arts degree shall take either Greek, Latin or Mathematics (three hours) in the Junior year.

*Note 3.* All candidates for the Bachelor of Science degree shall take two of the following (each three hours) in the Junior year: Mathematics, Chemistry, Physics, Geology and Astronomy, Biology.

#### SENIOR YEAR.

1. *Scripture*. One hour a week.

2. *Ethics*. Two hours a week.

3. *Themes*.

4. *Elective Studies* from the lists on pages 23-26. Twelve hours a week.

## MECHANICAL AND ELECTRICAL COURSES.

FRESHMAN YEAR.	
Mathematics,.....	4 hours.
Shop Work and Drawing,.....	10=4 "
French or German,.....	4 "
English and History, ..	5 "

SOPHOMORE YEAR.	
Mathematics,.....	4 hours.
Shop Work and Drawing,.....	10=4 "
Physics and Chemistry,.....	4 "
French or German,.....	3 "
English,.....	2 "

JUNIOR YEAR.	
Pure Mathematics .....	3 hours.
Shop Work and Drawing,.....	10=4 "
Materials of Construction or (alternate y'rs) Descriptive Geometry, Elements of Mechanism .....	} 2 "
Chemistry,.....	
Electives, .....	
	5=2 "
	3 "

SENIOR YEAR.	
Ethics,.....	2 hours.
Applied Mathematics..	3 "
Mechanical Laboratory and Drawing,.....	10=4 "
Theory of Steam Engine, Machine Design,.....	2 "
Electives,.....	3 "

For Electrical Students the course will be modified during the last two years so as to include a course in Theoretical and Practical Electricity.

Scripture and Themes are required throughout, and Physical Training through two years.

## PREPARATORY MEDICAL COURSE.

This course is designed for students who are candidates for the degree of A. B. or S. B. and who are looking forward to the study of medicine. It is intended that the studies included in it shall be taken as electives principally during the Junior and Senior years. Students satisfactorily completing this course will receive certificates which, together with their diplomas, will admit them without examination to the second year of the Medical School of the University of Pennsylvania or the Jefferson Medical School of Philadelphia.

The studies included in this course, together with the whole number of hours in the lecture-room and laboratory necessary to be devoted to each, are as follows:

General Biology,.....	96 hours.	Histology,.....	72 hours.
Zoology,.....	96 "	Physiology,.....	72 "
Botany,.....	96 "	Physics,.....	72 "
Mammalian Anatomy.....	96 "	Chemistry,.....	2:6 "
Embryology,.....	58 "	Human Anatomy,.....	144 "

Students not candidates for a degree may take the above studies in two years. Such students may not be admitted to the second year of the Medical Schools.

## ELECTIVE COURSES.

Seniors and Juniors will elect from the following list, with the approbation of the Faculty, courses sufficient to make up the required number of hours.

### GREEK.

I. Sophocles, *Antigone*, *Œdipus Tyrannus*; Euripides, *Medea*; Aristophanes, *Frogs*. [Prof. Gifford. \*3]

II. Plato, *Gorgias*, and *Selections*; Demosthenes, *On the Crown*. [Prof. Gifford. 3]

III. Outline of the History of Greek Literature; *Selected Readings* Lectures.

Greek Archæology, *Topics. Lectures*. [Prof. Gifford. 3]

Only two of the above courses are given in the same year.

### LATIN.

I. Selections from Lucretius and Catullus; Virgil, *Georgics* i, ii, iv and *Æneid*, vi.; Tacitus *Annals*, Bks. i-vi. Translation at sight.

[Dr. Mustard. 3.]

II. The principal Satires of Horace and Juvenal; Terence, *Adelphoe*, Plautus *Captives*; Tacitus, *History*, Bks. i-ii. [Dr. Mustard. 3.]

III. Advanced Latin Composition. [Dr. Mustard. 1.]

### ENGLISH.

I. Anglo-Saxon. Bright, *Anglo-Saxon Reader*; *Beowulf*; Lectures. [Dr. Gummere. 2.]

II. English Literature in the Fourteenth Century. Chaucer's *Canterbury Tales*; Lectures. [Dr. Gummere. 2.]

III. Shakspeare and Milton. Private Readings; Lectures on Elizabethan Poetry. [Dr. Gummere. 2.]

IV. English Literature of the Eighteenth Century. Selections from Representative Authors; Lectures; Private Readings. [Dr. Gummere. 2.]

V. English Poetry of the Nineteenth Century. Lectures; Private Readings from Burns, Coleridge, Wordsworth, Shelley, Byron, Keats, Arnold, Tennyson, Browning. [Dr. Hancock. 2.]

VI. An Advanced Course in Theme Writing. Lectures on the Principles of Literary Art; Regular Practice in the writing of short and long Themes; Individual Criticism. [Dr. Hancock. 1]

Those only who have attained good rank in Sophomore English will be admitted to this Class. Members of it will be exempted from prescribed theme work.

VII. Forensics. A Course in Extemporaneous Speaking; Occasional Addresses; Debates. [Dr. Hancock. 1.]

\*These figures represent the number of hours per week. In Laboratory Work, etc., two and a half hours count as one.

## GERMAN.

I. Middle-High-German. Paul, *Mittelhochdeutsche Grammatik*. Selections from the Poems of Walter von der Vogelweide. *Das Niebelungenlied*. [Dr. Gummere. 2.]

II. Goethe, *Faust*, *Iphigenie*, and *Aus Meinem Leben*; Freytag, *Aus dem Staat Friedrichs des Grossen*; Private Readings; Lectures on German Literature. [Dr. Gummere. 3.]

III. German Scientific Prose. Selections in Philosophy, Biology, Chemistry, etc. Sight Readings; Private reading, with reports. [Dr. Gummere. 2.]

IV. A Course in Rapid Reading. Class Readings: *Der Fluch der Schönheit*, *Minna von Barnhelm*, *Wilhelm Tell*, *Hermann und Dorothea*, *Ekkehard*. Sight Readings: *Er sucht einen Vetter*, *Sie hat ihr Herz entdeckt*, *Die Journalisten*. Collateral Readings: *Das kalte Herz*, *Waldnovellen*, *Höher als die Kirche*, *Undine*. [Dr. Hancock. 4.]

V. Thomas, *German Grammar*; Heyse, *L'Arabbiata*; Storm, *Immensee*; *Märchen und Erzählungen*; Hauff, *Karawanc*. Translations at sight of ordinary prose. Exercises in Composition. [F. K. Walter. 3.]

## FRENCH.

I. General view of the literature of the Seventeenth, Eighteenth, and Nineteenth Centuries; Corneille, *Polyeucte*; Racine, *Phèdre*; Molière, *Les Précieuses Ridicules*, *Le Misanthrope*, *Le Tartuffe*; Pascal, *Pensées*; Bossuet, *Oraison funèbre de Henriette d'Angleterre*; Regnard, *Le Joueur*; Voltaire, *Zaire*; J.-J. Rousseau, *Morceaux Choisis*; Marivaux, *Le jeu de l'amour et du hasard*; Beaumarchais, *Le Mariage de Figaro*; Chateaubriand, *Atala*; A. de Musset, *On ne badine pas avec l'amour*; Victor Hugo, *Poésies*; *Les Misérables*; Balzac, *Eugénie Grandet*; George Sand, *Les Maîtres Sonneurs*; Daudet, *Tartarin de Tarascon*; Augier, *Le Gendre de Monsieur Poirier*. In connection with this course the students will be required to read Petit de Julleville's *Leçons de Littérature Française* for a survey of the history of French literature from its origin to the present day.

[Prof. Ladd. 3.]

II. Nineteenth Century: Daudet, Sandeau, Lamartine, Hugo, Dumas, Mérimée, Loti. Seventeenth Century: Corneille, Racine, Molière, La Fontaine, History of French Literature (XVII-XIX Centuries); Composition.

[Prof. Ladd. 4.]

III. Grandgent's *French Grammar*; Mérimée, *Colomba*; Labiche, *Le Voyage de M. Perrichon*; Sand, *La Mare au Diable*; Coppée, *Le Luthier de Crémone*.

[Prof. Ladd. 3.]

## PURE MATHEMATICS.

I. Analytical Geometry of Three Dimensions. Calculus.

[Dr. Morley. 3.]

This course is required of Engineering Students in their Junior year; and it is the proper course, in general, for all students who elect Pure Mathematics in their Junior year.

II. Modern Methods in Analytic Geometry.

[Dr. Morley. 3.]

III. Introduction to the Theory of Functions. The Trigonometric and Elliptic Functions. [Dr. Morley. 3.]

IV. Fourier Series and Spherical Harmonics. [Dr. Morley. 3.]

#### APPLIED MATHEMATICS.

I. Introduction to Analytical Mechanics, including Attraction and Potential. [Dr. Brown. 3.]

II. Differential Equations (Forsyth). [Dr. Brown. 3.]

III. Elementary Rigid Dynamics (Routh). [Dr. Brown. 3.]

#### HISTORY.

I. American Colonial History to 1783; Europe and America during the Eighteenth Century. [Prof. Thomas. 3.]

II. Constitutional and Political History of the United States, 1783 to 1865. [Prof. Thomas. 3.]

Courses I. and II. are intended to be given in alternate years.

#### PHILOSOPHY.

History of Philosophy. [Dr. Jones. 2.]

History of the Development of Christian Thought. [Dr. Jones. 1.]

#### POLITICAL SCIENCE.

I. Economic Theory with special reference to problems of distribution: Discussions and Lectures. (Half-year.) [D. C. Barrett. 3.]

II. Money and Banking; Discussions, Reports and Lectures. (Half-year.) [D. C. Barrett. 3.]

III. History and Problems of Transportation in the United States; Lectures. (Half-year.) [D. C. Barrett. 3.]

IV. Economic History of Western Europe and America since the middle of the seventeenth century; Lectures. (Half-year.) [D. C. Barrett. 3.]

Two of the above courses will be given each year.

V. Modern Government: American and European Systems: Discussions, Reports and Lectures. [D. C. Barrett. 3.]

VI. Commercial Law and Banking. [Dr. Bolles. 2.]

VII. Finance. [Dr. Bolles. 1.]

#### ASTRONOMY.

I. Practical Astronomy, with Observatory Practice.

II. Descriptive Astronomy. (Half-year.) [W. H. Collins. 2.]

[W. H. Collins. 3.]

#### CHEMISTRY.

The following courses must be preceded by the Course in Elementary General Chemistry of the Sophomore year, or its equivalent.

I. Qualitative Analysis; Laboratory Practice with occasional lectures and recitations. Preparation of Elements and Compounds.

[\*Dr. Hall. 2 or more.]

II. Quantitative Analysis; Gravimetric and Volumetric determinations. Inorganic preparations. Lectures and recitations. [\*Dr. Hall. 2 or more.]

III. Organic Chemistry; Lectures and Laboratory Work. [\*Dr. Hall. 2.]

IV. Advanced Quantitative Analysis; Gas Analysis; Examination of Water, Milk, Butter, Iron and Steel, etc. [\*Dr. Hall. 2 or more.]

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\* During the Year 1899-1900 this course will be given by Dr. Baxter.

## BIOLOGY.

All of the following courses except Course VII. must be preceded by the Course in Elementary Biology, given in the second half of the Sophomore year.

- I. Comparative Anatomy of Vertebrates; Lectures and Laboratory Work. [Dr. Pratt. 3.]
- II. Morphology of Invertebrates; Lectures and Laboratory Work. [Dr. Pratt. 1 or more.]
- III. Histology of Vertebrates; Lectures and Laboratory Work. [Dr. Pratt. 3.]
- IV. Embryology of Vertebrates; Lectures and Laboratory Work. [Dr. Pratt. 3.]
- V. General Botany; Lectures and Laboratory Work. [Dr. Pratt. 2.]
- VI. Entomology; Lectures and Laboratory Work. [Dr. Pratt. 2.]
- VII. Evolution and Heredity; Lectures. [Dr. Pratt. 1.]

The above Courses are arranged to occupy two years. Courses I, II, and VII each occupies a year. Courses III and IV together occupy a year. Courses V and VI together occupy a year. Course I is given in alternate years with Courses III and IV. Courses V and VI are given in alternate years with Course VII. Seniors and graduate students who are properly prepared will be given any advanced work they may elect including special investigations.

VIII. Human Anatomy (Preparatory Medical). Anatomy of the Extremities, and General Osteology. [Dr. Babbitt. 2.]

IX. Human Anatomy (Preparatory Medical). Anatomy of Head and Trunk, including Brain and Nervous System. [Dr. Babbitt. 2.]

Courses VIII. and IX. are given in alternate years.

X. Advanced Physiology. A General Course, including practical and experimental work, [Dr. Babbitt. 2.]

## GEOLOGY

Elementary Geology; Recitations and Field Work. (Half-year.) [Dr. Pratt. 3.]

## ENGINEERING.

- I. Materials of Construction; Theory of Steam Engine. [Prof. Edwards. 2.]
  - II. Descriptive Geometry; Elements of Mechanism. [Profs. Brown and Edwards. 2.]
- Courses I. and II. will be given in alternate years.
- III. Machine Design and Draughting. [O. M. Chase. 2.]

## PHYSICS.

- I. Electrical Engineering; Slingo and Brooker's Electrical Engineering and S. P. Thompson's Dynamo-Electric Machinery with Laboratory work. [Prof. Edwards. 2.]
- II. Electricity and Magnetism; Advanced Experimental Work with Lectures. [Prof. Edwards. 2.]
- III. Advanced Course in General Physics; Lectures and Laboratory Work. [Dr. Saunders. 2 or more.]
- IV. Theory of Light; Lectures and Laboratory Work. [Dr. Saunders. 2 or more.]



## PUBLIC LECTURES, 1898-'99.

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### HAVERFORD LIBRARY LECTURES.

- DR. CASPER RENÉ GREGORY, of the University of Leipsig, Germany.  
Paleography.
- DR. PHILIP S. MOXOM, of Springfield, Mass.  
The Old Testament and the Higher Criticism.  
The Practical Use of the Bible.
- DR. GEORGE ADAM SMITH, of Glasgow, Scotland.  
The Book of Proverbs.
- DR. FRANCIS E. CLARK, of Boston, Mass.  
The Influence of Character.

### FACULTY LECTURES.

- DR. ALBERT E. HANCOCK.  
Dante and the Divine Comedy.
- PRESIDENT ISAAC SHARPLESS.  
Some Chapters in Local History.

### OTHER PUBLIC LECTURES.

- DR. FRANK K. WALDO, late Professor in the Signal Service Bureau,  
Washington, D. C.  
The Problems of Meteorology.  
The Weather Map and How to Use It.
- HENRY LAWRENCE SOUTHWICK, of the William Penn Charter School,  
Philadelphia, Pa.  
Hamlet—the Man of Will.
- JOHN WILHELM ROWNTREE, of York, England.  
Albrecht Dürer. (Illustrated.)
- JAMES WOOD, of Mt. Kisco, N. Y.  
Yucatan. (Illustrated.)

## GRADING OF STUDENTS.

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STUDENTS are divided, according to their grades, into five sections, A, B, C, D, E. Each student is notified of the section to which he has been assigned, but the grades are not published. Section E is composed of those who cannot be advanced to the next class, or receive their Bachelor's degree. Daily recitations, hour examinations, and final examinations are all used as elements in determining the standing of a student.

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## ADVANCED DEGREES.

Graduates of three years' standing may take the degree of MASTER OF ARTS or of MASTER OF SCIENCE, by passing an examination on some literary or scientific course of study which shall receive the approbation of the Faculty.

Candidates who are examined may also be required to hand in dissertations on topics in the field of study which they have specially investigated.

Resident graduates, who have completed an adequate course of study, may be admitted to an examination for a second degree at the expiration of one or two years.

Notice of application for examination must be given to the President two months before Commencement. The examination for non-residents will be held during the last week in the Fifth month, and in no case at a later date. The fee for the Master's Diploma is Twenty Dollars, to be paid in all cases before the 1st of the Sixth month.

Adequate courses of study for the Master's degree will be arranged on application to the President.

## EXPENSES.

The charge for tuition, board and room rent varies with the location of the room from \$400 to \$600 a year.

The number of the students for which there is accommodation at the different rates is as follows:

Founders Hall,	14	at \$400 each.
Barclay Hall,	24	at \$450 each.
“ “	56	at \$500 each.
“ “	2	at \$525 each.
Lloyd Hall,	12	at \$575 each.
“ “	4	at \$600 each.

NOTE.—The rent of rooms includes steam heat, electric light, necessary bed-room furniture, and care of rooms. Students will supply their study-room furniture, also towels and table napkins.

The charge for tuition is one hundred and fifty dollars (\$150) a year; for tuition and mid-day meal, two hundred dollars (\$200) a year.

Books and stationery will, at the option of the student, be supplied by the college and charged on the half-yearly bills. Materials consumed and breakage in the laboratories are also charged.

Bills for board and tuition are payable, three-fifths at the beginning, and two-fifths at the middle of the college year.

SCHOLARSHIPS.

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I. Senior Scholarships. Four Scholarships of the annual value of \$300 each are offered to graduates nominated by the Faculties of Earlham, Penn, Wilmington, and Guilford Colleges.

The charges for Board and Tuition are from \$400 to \$600 per year according to the location of the room. Rooms will be reserved at the former rate till Fifth month 1st of each year for the recipients of Senior Scholarships in the succeeding year.

II. I. V. Williamson Scholarships. Three Scholarships of the annual value of \$400 each.

III. Richard T. Jones Scholarship. One scholarship of the annual value of \$400.

II and III will be so arranged that one only will usually be vacated each year and awarded to a Freshman.

IV. Corporation Scholarships. Sixteen Scholarships of the annual value of \$300 each will be given by competitive examination, open to all applicants for admission to the Freshman Class.

Details of the examination will be given on application to the President.

V. Foundation Scholarships. Eight Scholarships of the annual value of \$200 each. Three of these may be given on the nomination of the Faculty of Westtown Boarding School.

VI. Edward Yarnall Scholarship. One Scholarship of the annual value of \$200. Open only to Friends.

VII. Thomas P. Cope Scholarship. One Scholarship of the annual value of \$200. Open only to Friends who intend to teach.

VIII. Sarah Marshall Scholarship. One Scholarship of the annual value of \$200.

IX. Mary M. Johnson Scholarship. One Scholarship of the annual value of \$200.

X. Isaac T. Johnson Scholarship. One Scholarship of the annual value of \$200 given on the nomination of Friends' School, 4th and West Sts., Wilmington, Del.

XI. Day Scholarships. Eight Scholarships of the annual value of \$100 each.

XII. One Scholarship of the annual value of \$150 which may be given on the nomination of the Lower Merion High School.

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All Scholarships are given for one year only but may be renewed by the College (except I, X and XII) if the conduct and standing of the recipient be satisfactory.

I, X and XII will thus be vacated yearly, and about one-fourth of the others.

Except XI and XII, all Scholarships involve residence at the College.

All applicants must present satisfactory proof of good preparation and of high character.

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## THE HAVERFORD FELLOWSHIP.

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This Fellowship, of the annual value of \$500, may be awarded by the Faculty to the best qualified applicant from the Senior Class. He is required to spend the succeeding year in study at some American or foreign university approved by the Faculty.

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## PRIZES.

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### ALUMNI PRIZE FOR COMPOSITION.

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The Association of the Alumni, in the year 1875, established an annual prize, either of a gold medal or of an equivalent value in books with a bronze medal, for excellence in Composition and Oratory.

The following are the rules governing the competition :

I. The Alumni Medal is offered yearly to the competition of the members of the Senior and Junior classes, as a prize for the best delivered oration prepared therefor.

II. Three or five Judges shall be appointed from year to year by the Alumni Committee, who shall hear publicly, in Alumni Hall, all competitors who may be qualified to appear.

III. No oration shall occupy in delivery more than fifteen minutes.

IV. In making their award, while due weight is given to the literary merits of the oration, the Judges are to consider the prize as offered to encourage more especially the attainment of excellence in elocution.

V. The Judges shall have the right to withhold the prize if the elocution and the literary merits of the oration fall below a suitable standard of excellence.

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#### THE EVERETT SOCIETY (SILVER) MEDAL.

This medal is offered by the donor to the members of the two lower classes for competition in oratory. It is given in memory of the old Everett Society.

Orations shall not exceed ten minutes in delivery, shall be prepared considerably in advance and perfectly committed to memory.

It is desired, in addition, that a record should be kept of each year's contest. The precise rules governing each contest will be announced in advance.

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#### JOHN B. GARRETT PRIZES FOR SYSTEMATIC READING.

Four prizes, of \$40, \$30, \$20, and \$10 respectively, will be given to those members of the Junior Class who, having creditably pursued their regular studies and paid proper attention to physical culture, shall have carried on the most profitable course of reading of standard authors during the Sophomore and Junior years.

The direction of the work and the decision as to the award of the prizes shall be in the hands of a committee consisting of the President, the Librarian and the Professor of English.

There will be an oral examination to determine the scope and quality of the reading, and a thesis treating of subjects embraced in the course will be required.

Any or all of these prizes may be omitted if, in the judgment of the committee, the work does not justify the award.

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THE CLASS OF 1896 PRIZES IN LATIN AND MATHEMATICS.

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These are two prizes of \$10 each. They will be awarded at the end of the Sophomore year, for proficiency in Latin and Mathematics respectively.

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PHILIP C. GARRETT PRIZES.

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These are five prizes of \$10 each, in books or cash, as follows :—

1. To the most proficient student in mathematics at the end of the Senior year.
2. To the most proficient student in Greek at the end of the Freshman year.
3. To the most proficient student in Latin at the end of the Freshman year.
4. To the best writer of themes in the Freshman class.
5. To the member of the Senior or Junior class who shall have done the most thorough and satisfactory work in biology.

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THE CLASS OF 1898 PRIZE IN CHEMISTRY.

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The Class of 1898 offers a prize of \$10 in books to the member of either the Senior or Junior class who, in the judgment of the Professor in charge, shall have done the most thorough and satisfactory work during the year in the laboratory, and in oral and written examinations.

This prize will not be awarded twice to the same student.

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HONORS.

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For the purpose of Honors, studies are divided as follows :

- a. Literary studies : namely, the Greek, Latin, German and French Languages, English Literature, History, Philosophy, and Political Science.

*b.* Scientific studies : namely, Astronomy, Biology, Chemistry, Engineering, Mathematics, and Physics.

Candidates for Honors shall elect from any two studies in one of these groups at least five hours per week during the Junior year, and eight hours per week during the Senior year, and shall make their announcements of candidacy at the beginning of the Junior year.

*Highest Honors* and *Honors* may be given, dependent on the judgment of the professors in charge. They will base their decisions on special examinations, or on the character of the daily work.

Honors shall be announced at Commencement and in the succeeding catalogue.

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## LIBRARY.

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LIBRARIAN, Professor Allen C. Thomas : ASSISTANT, Helen Sharpless.

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The number of bound volumes in the Library of Haverford College is 35,736. Numerous American and European periodicals, scientific and literary, are taken by the Library.

About \$1,800 yearly are expended for the purchase of books and periodicals.

The Library is open as a reading-room from 8.30 A.M., to 6 P.M., during which time the volumes in the alcoves may be freely consulted. The Librarian devotes stated hours each week to the purpose of assisting and directing students in their reading, and in the intelligent use of books of reference and of authorities. He also arranges courses of reading.



## CHEMICAL LABORATORY.

DIRECTOR, Dr. Lyman B. Hall.

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The laboratory work comprises elementary experiments in general chemistry ; an extended study of the more important elements and their compounds ; qualitative and quantitative analysis ; the preparation of pure compounds, and experimental work illustrating chemical laws and theories.

Students may substitute for the last two years of the Scientific Course a special course in chemistry, embracing both theory and laboratory work.

Opportunity is given for elementary or advanced special work, with ample facilities for its prosecution.

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## PHYSICAL LABORATORY

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DIRECTORS { General Physics, Dr. F. A. Saunders.  
Electricity, Prof. L. T. Edwards.

The Physical Laboratory occupies five rooms, and is well equipped for work in the different departments of Physics. The apparatus has been selected with especial reference to quantitative rather than qualitative work, and includes in every department exact standards. The department of electricity has been exceptionally well equipped.

The students are instructed in the accurate measurement of various physical quantities in mechanics, heat, light, sound, and electricity. They are also assigned a certain amount of qualitative work leading up to a more intimate knowledge of the properties of matter.

The work of the more advanced students is supplemented by reading in the foreign and domestic scientific journals which are accessible in the Library.

A number of valuable standard instruments in electricity have recently been purchased.

## BIOLOGICAL LABORATORY.

DIRECTOR, DR. H. S. PRATT.

The Biological Laboratory is well equipped with reagents and with microscopes and all the other necessary apparatus and appliances. It contains also about two hundred recent biological works and zoological and botanical charts.

The work consists of courses in general zoology and botany, followed by thorough courses in invertebrate and vertebrate morphology, histology and embryology.

Students who have completed the courses prescribed may elect advanced work or carry on special investigation.

## MECHANICAL LABORATORY.

DIRECTOR, PROF. LEVI T. EDWARDS

The Engineering Department occupies a new stone building, three stories high, erected during the summer of 1896. The entire equipment is new and of the best quality. The wood-working department affords accommodations for fourteen students at one time. The benches are supplied with quick action vises and a complete set of carpenter's tools for each student. This shop contains a 36" band saw and two wood lathes. The iron-working department contains a 24" x 12' Blaisdell engine lathe and three smaller engine-lathes; a 24" x 24" x 6' planer; Gould & Eberhardt 16" shaper; two drill-presses; several vises and complete sets of machinists' tools for bench work. Three steam engines, two of which are tandem compounds directly coupled to 60 K.W.

dynamos, together with indicators and electrical measuring instruments afford good opportunity for engine and dynamo testing. The third story of the building is devoted to drawing, and is a commodious and well-lighted room.

The instruction begins with a series of graded exercises, which teach accuracy in the use of tools and illustrate the principles of machine construction. This is followed by practice in the construction of parts of machinery and the building of complete machines.

The students, under the care of the Director, are taken from time to time to visit machine shops and engineering constructions in Philadelphia and vicinity.

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## ASTRONOMICAL OBSERVATORY.

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DIRECTOR, WILLIAM H. COLLINS.

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The Haverford Observatory affords students the means of becoming familiar with the use of astronomical instruments and of acquiring, from actual observation, a practical acquaintance with Astronomy.

It contains two equatorial telescopes, one, by Clark, having an object-glass 10 inches in diameter, and one with an object-glass of  $8\frac{1}{4}$  inches, with filar micrometer and eye-pieces; a polarizing eye-piece; a Newtonian reflector, with a silver-on-glass speculum of  $8\frac{1}{4}$  inches diameter; a prism spectroscope; a meridian transit circle having a telescope of  $3\frac{3}{4}$  inches aperture, with a circle at each end of the axis 26 inches in diameter; a zenith instrument of  $1\frac{3}{4}$  inches aperture, with a micrometer; two sidereal clocks, one with mercurial compensation, the other used to connect with a Bond's magnetic chronograph.

The latitude of the Observatory is  $40^{\circ} 0' 40''$  N. ; its longitude, 6 minutes 59.4 seconds east from Washington.

A special course in Astronomy is offered to amateurs and teachers, The requisites for the course and the fees charged will depend upon the work which the applicant desires to perform.

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## THE GYMNASIUM.

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DIRECTOR, JAMES A. BABBITT, M. D.

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The Gymnasium has been refitted with several improved gymnastic appliances, and now includes rowing, sculling and wrist machines, chest weights, striking-bag and drum, and a complete equipment of modern and improved Swedish apparatus, provided by the Helen C. Jenks fund.

The Director gives systematic instruction, based upon careful physical examination. Extensive additions have been made for this purpose in the anthropometric equipment.

Required work begins Twelfth month 1st and ends Fourth month 1st, and occupies four periods each week.

It is arranged in two courses, each occupying one winter.

Students entering the Freshman class are required to take the two courses, one each year; and divisions for advanced work are formed of those giving evidence of previous systematic gymnasium drill.

Students entering the Sophomore class are required to complete one course with a similar privilege of advanced standing.

While the work is required of the two lower classes only, it is elective for the upper classes, and it is expected that the majority of their members will take advantage of the advanced courses arranged.

A special course has been inaugurated, based upon and closely following the rules of the Swedish Educational System. This physical course is elective to all classes and occupies three periods per week.

## SOCIETIES.

THE LOGANIAN SOCIETY was established by the officers and students in 1834, and is now a debating society.

THE EVERETT-ATHENÆUM is a literary society of the students.

A flourishing branch of the YOUNG MEN'S CHRISTIAN ASSOCIATION exists at the college.

DEGREES, PRIZES AND HONORS  
GRANTED IN 1899.

At the Commencement in 1899, Degrees were granted after examinations to the following graduates :

## BACHELOR OF ARTS

William John Bawden	Howard Haines Lowry
Walter Elihu Blair	Edward Hough Lycett
William Bode	Joseph Paul Morris
Royal Jenkins Davis	Herbert Clinton Petty
Francis Algernon Evans	Malcolm Augustus Shipley, Jr.
Rufus Horton Jones	Frank Keller Walter
Arthur Clement Wild	

## BACHELOR OF SCIENCE

William Aldrich Battey	Alfred Collins Maule
John Darlington Carter	Ralph Mellor
Edward B. Conklin	John Howard Redfield, Jr.
Benjamin Satterthwait DeCou	Elisha Roberts Richie

## MASTER OF ARTS

William Warder Cadbury	Arthur Fernandez Coca
Ira Isbon Sterner	

## PRIZES

*The Haverford Fellowship (\$500) for 1899-1900, was awarded to*  
John Darlington Carter

*The Alumni Prize in Composition and Oratory (\$50) was awarded to*  
William John Bawden

*The Everett Society Medal for Oratory for Sophomores and Freshmen was  
awarded to*

George John Walenta

*The John B. Garrett Prizes for Systematic Reading for Juniors  
were awarded to*

First Prize (\$60.00), . . . . Walter Swain Hinchman

Second Prize (\$40.00), . . . Frank Eugene Lutz

*The Class of 1896 Prizes in Latin and Mathematics for Sophomores and  
Freshmen were awarded to*

Latin (\$10.00), . . . . Howard Valentine Bullinger

Honorable Mention, . . . { Ellis Yarnall Brown, Jr.

Mathematics (\$10.00), . . . Clarence W. Bankard

Honorable Mention, . . . Walter Hallock Wood

Mathematics (\$10.00), . . . Howard Valentine Bullinger

*The Philip C. Garrett Prizes were awarded to*

For Senior Mathematics (\$10.00), . . . John Howard Redfield, Jr.

For Senior or Junior Biology (\$10.00), . . . Elisha Roberts Richie

For Freshman Latin (\$10.00), . . . Richard Mott Gummere

For Freshman Greek (\$10.00), . . . Richard Mott Gummere

For Freshman Themes (\$10.00), . . . Alexander Cooper Wood, Jr.

*The Class of 1898 Prize in Chemistry (\$10.00 in books) for Seniors or  
Juniors was awarded to*

John Darlington Carter

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### HONORS:

General Honors, . . . . John Darlington Carter

Honors in Chemistry, . . . . John Darlington Carter

Honors in English and German, . . Frank Keller Walter

*Seniors elected to the Phi Beta Kappa Society*

John Darlington Carter

Frank Keller Walter

# LIST OF GRADUATES AND HONORARY DEGREES.

(Degrees conferred by other institutions are indicated by *italics*.)

THE ONLY DEGREE GRANTED ON GRADUATION BEFORE 1877 WAS THAT OF BACHELOR OF ARTS.

## GRADUATES.

1836

- \*Thomas F. Cock, *M.D.*, LL. D., \*1896  
\*Joseph Walton, \*1898

1837

- \*William C. Longstreth, \*1881  
\*David C. Murray, \*1885  
\*Lindley Murray, \*1897  
\*Benjamin V. Marsh, \*1882  
\*Joseph L. Pennock, \*1870  
\*Robert B. Parsons, \*1898  
\*Charles L. Sharpless, \*1882  
\*Lloyd P. Smith, A.M., \*1886  
\*B. Wyatt Wistar, \*1869

1838

- \*James V. Emlen, *M. D.*, \*1880  
\*John Elliott, \*1893

1839

- \*Frederick Collins, \*1892  
Thomas P. Cope  
\*Henry Hartshorne, *M. D.*, A. M.  
*LL.D.* \*1897  
\*Nereus Mendenhall, *M. D.*, \*1893  
Richard Randolph, Jr., *M. D.*  
\*Charles Taber, \*1887

1840

- \*Joseph Howell, \*1889  
Anthony M. Kimber  
\*Henry H. G. Sharpless, \*1870  
\*John R. Winslow, *M. D.*, \*1866

1841

- \*Richard H. Lawrence, \*1847  
\*James P. Perot, \*1872  
\*Elias A. White, \*1866

1842

- Robert Bowne  
\*Richard Cadbury, \*1897  
\*William S. Hilles, \*1876  
\*Thomas Kimber, Jr., LL.D., \*1890  
\*James J. Levick, *M.D.*, A.M., \*1893  
Edmund Rodman, A. M.  
Thomas R. Rodman, A. B.  
Benjamin R. Smith  
\*Augustus Taber, \*1898  
\*Caleb Winslow, *M. D.* \*1895

1843

- Robert B. Howland  
Francis White  
\*William D. Stroud, *M. D.*, \*1883

1844

- Evan T. Ellis  
\*Robert B. Haines, \*1895  
Isaac Hartshorne

1845

- \*Edmund A. Crenshaw, \*1894  
\*Robert Pearsall, \*1849

1849

- Albert K. Smiley, A. M.  
Alfred H. Smiley, A. M.

1851

- Joseph L. Bailey  
Philip C. Garrett  
\*Thomas J. Levick, 1893  
Franklin E. Paige, A. M.

Zaccheus Test, *M. D.*, A. M.  
 \*James C. Thomas, *M. D.*, A. M., \*1897  
 Richard Wood

1852

\*Dougan Clark, *M. D.*, \*1896  
 Lewis N. Hopkins  
 \*William L. Kiusmar, \*1899.  
 William E. Newhall  
 \*James Whitall, \*1896

1853

William B. Morgan, A. M.  
 \*William H. Pancoast, *M. D.*, A. M.,  
 \*1897

1854

\*Frederick Arthur, Jr., \*1891  
 John W. Cadbury  
 John B. Garrett  
 David Scull

1855

\*Samuel Bettie, \*1859  
 John R. Hubbard, A. M.

1856

Bartholomew W. Beesley  
 Joel Cadbury, Jr.  
 Jonathan J. Comfort, *M. D.*  
 \*James M. Walton, \*1874  
 Edward R. Wood, A. M.

1857

Jesse S. Cheyney, A. M.  
 \*Cyrus Mendenhall, \*1858  
 \*Stephen Wood, \*1899

1858

\*Thomas H. Burgess, \*1893  
 Thomas Clark  
 \*Daniel W. Hunt, \*1898  
 Samuel T. Satterthwaite, 1865  
 William G. Tyler  
 Thomas Wistar, A. M., *M. D.*  
 Ellis H. Yarnall, *L.L.B.*

1859

\*Richard W. Chase, \*1865  
 James R. Magee  
 \*Richard C. Paxson, \*1864  
 \*Edward Rhoads, *M. D.*, \*1871  
 Edward C. Sampson

\*George Sampson, \*1872  
 Abram Sharples, *M. D.*  
 Benjamin H. Smith

1860

\*Lindley M. Clark, \*1861  
 \*William B. Corbit, *M. D.*, \*1872  
 \*William M. Corlies, \*1881  
 Cyrus Lindley  
 Theodore H. Morris  
 Frederick W. Morris  
 Richard Pancoast  
 \*John W. Pinkham, *M. D.*, \*1894  
 Francis Richardson  
 Clement L. Smith, A. M., *L.L.D.*  
 James Tyson, *M. D.*, A. M.  
 Silas A. Underhill, *L.L.B.*

1861

Edward Bettie, Jr.  
 \*Henry Bettie, \*1886  
 \*Charles Bettie, \*1883  
 William B. Broomall  
 Charles H. Jones  
 \*Thomas W. Lamb, A. M., *M. D.*,  
 \*1878  
 William N. Potts  
 Jehu H. Stuart, A. M., *M. D.*  
 John C. Thomas

1862

Henry T. Coates, A. M.  
 \*Samuel A. Hadley, \*1864  
 Horace G. Lippincott  
 George B. Mellor  
 Horace Williams, *M. D.*  
 \*Isaac F. Wood, \*1895

1863

Thomas J. Battey, A. M.  
 \*George M. Coates, Jr., A. M., \*1894  
 William M. Coates  
 \*Richard T. Jones, \*1869  
 William H. Morris  
 Joseph G. Pinkham, *M. D.*, A. M.

1864

\*Franklin Angell, A. M., \*1882  
 \*William Ashbridge, *M. D.*, \*1884  
 Edward H. Coates  
 Howard M. Cooper, A. M.  
 Albin Garrett



- Morris Longstreth, *A. B., M. D., A. M.*  
 \*Albert Pancoast, \*1898  
 Charles Roberts  
 \*E. Pope Sampson, \*1893  
 \*Edward L. Scull, \*1884  
 \*Randolph Wood, \*1876
- 1865  
 John R. Bringham  
 \*Edward T. Brown, \*1892  
 James A. Chase  
 Joseph M. Downing  
 Arthur Haviland  
 \*David H. Nichols, \*1865  
 Henry W. Sharpless  
 \*George Smith, Jr., \*1872  
 Robert B. Taber, A. M.  
 Allen C. Thomas, A. M.  
 Benjamin A. Vail  
 Caleb Cresson Wistar
- 1866  
 A. Marshall Elliott, A. M., *Ph. D., LL. D.*  
 Benjamin E. Valentine, *LL.B.*
- 1867  
 \*John Ashbridge, \*1881  
 George Ashbridge, A. M., *LL.B.*  
 William P. Clark, A. M., *LL.B.*  
 Samuel C. Collins, A. M.  
 Nathaniel B. Crenshaw  
 Charles H. Darlington, A. M.  
 \*William T. Dorsey, *M. D.*, \*1870  
 B. Franklin Eshleman  
 Richard M. Jones, A. M., *LL.D.*  
 \*Charles W. Sharpless, \*1889  
 Walter Wood
- 1868  
 Edward H. Cook  
 \*Alexis T. Cope, \*1883  
 Benjamin C. Satterthwaite  
 Louis Starr, *M. D.*  
 S. Finley Tomlinson  
 Joseph H. Wills, A. M., *M. D.*
- 1869  
 Johns H. Congdon  
 Henry Cope, A. M.  
 \*Ludovic Estes, *A. M., Ph. D.*, \*1898  
 \*Henry Eval, A. M., \*1877  
 \*William B. Kaighn, \*1876  
 Pendleton King, A. M.  
 William H. Randolph
- Edward B. Taylor, *M. C. E.*  
 William S. Taylor  
 James G. Whitlock  
 Walter Wood  
 Henry Wood, *Ph. D.*
- 1870  
 J. Stuart Brown  
 John E. Carey  
 Alfred G. Coale  
 Howard Comfort  
 T. Allen Hilles  
 William H. Hubbard, *M. D.*  
 \*Thomas K. Longstreth, A. M., .  
 \*1883  
 Oliver G. Owen, A. M.  
 \*Charles E. Pratt, A. M., \*1898  
 David F. Rose  
 \*John D. Steele, \*1886  
 Charles Wood, A. M., *D.D.*  
 Stuart Wood, *Ph. D.*
- 1871  
 Henry G. Brown  
 \*William P. Evans, \*1893  
 John S. Garrigues  
 Reuben Haines, A. M.  
 William H. Haines  
 Joseph Hartshorne  
 Jesse F. Hoskins  
 Walter T. Moore  
 Ellis B. Reeves  
 Alfred R. Roberts  
 Charles S. Taylor  
 Edward D. Thurston  
 Randolph Winslow, *M. D.*, A. M.
- 1872  
 Richard Ashbridge, *M. D.*  
 Richard T. Cadbury, *A. B., A.M.*  
 James Carey, Jr., *LL.B.*  
 Thomas S. Downing, Jr.  
 Walter Erben  
 \*Thomas Rowland Estes, \*1898  
 John E. Forsythe  
 William H. Gibbons, A. M.  
 Francis B. Gummere, *A. B., A. M., Ph. D.*  
 Caspar Wistar Haines, A. M., *C. E.*  
 Abram Francis Huston  
 \*Marmaduke Cope Kimber, A. M.,  
 \*1877  
 William M. Longstreth  
 Richard H. Thomas, *M. D.*

1873

James C. Comfort  
 Thomas P. Cope, Jr.  
 George W. Emlen  
 Joseph M. Fox  
 Henry C. Haines  
 Benjamin H. Lowry, A. M.  
 Alden Sampson, A. M., *A. B.*, *A. M.*  
 \*Julius L. Tomlinson, A. M., \* 1890.

1874

Edward P. Allinson, A. M.  
 John G. Bullock  
 James Einlen  
 Charles R. Hartshorne, *LL. B.*  
 Samuel E. Hilles  
 John B. Jones  
 \*Mahlon Kirkbride, \* 1889  
 Theophilus P. Price  
 James B. Thompson  
 Joseph Trotter

1875

Edward K. Bispham  
 Alonzo Brown, A. M.  
 J. Franklin Davis, A. M.  
 Charles E. Haines  
 \*William Hunt, Jr., \* 1898  
 Charles L. Huston  
 Harold P. Newlin  
 Walter W. Pharo  
 Charles E. Tebbetts  
 Miles White, Jr.

1876

Francis G. Allinson, A. M., *Ph. D.*  
 David S. Bispham  
 Reuben Colton  
 Henry W. Dudley  
 Seth K. Gifford, A. M.  
 L. Lyndon Hobbs, A. M.  
 Richard H. Holme  
 \*Thomas William Kimber, \* 1885  
 Charles A. Longstreth  
 J. Whitall Nicholson  
 Percival Roberts, Jr.  
 Frank H. Taylor  
 Howard G. Taylor  
 \*Lewis A. Taylor, \* 1881

1877

A. B.  
 Isaac W. Anderson  
 Frederick L. Bailly

Isaac Forsythe  
 James D. Krider  
 George G. Mercer, *LL. M.*, *J. C. D.*  
 Wilson Townsend

S. B.

William F. Smith

1878

A. B.

Henry Bailly, *A. B.*, *A. M.*  
 Albert L. Bailly  
 Francis K. Carey, *LL. B.*, *A. M.*  
 Edward T. Comfort  
 Charles S. Crosman, *A. B.*, *LL. B.*  
 Samuel Hill, A. B.  
 Lindley M. H. Reynolds  
 Daniel Smiley, Jr.  
 Henry L. Taylor, A. M., *M. D.*  
 John M. W. Thomas  
 George W. White

S. B.

Jonathan Eldridge  
 Edward Forsythe  
 Cyrus P. Frazier, *A. B.*  
 Robert B. Haines, Jr.  
 Henry N. Stokes, *Ph. D.*

1879

A. B.

Samuel Bispham, Jr.  
 \*Edward Gibbons, \* 1891  
 John H. Gifford, *M. D.*  
 Francis Henderson, *LL. B.*  
 William C. Lowry  
 John B. Newkirk  
 John E. Sheppard, Jr., *M. D.*

1880

A. B.

Charles F. Brédé, A. M.  
 Charles E. Cox, *A. M.*  
 Josiah P. Edwards  
 James L. Lynch  
 Samuel Mason, Jr.  
 William F. Perry  
 Joseph Rhoads, Jr., A. M.

S. B.

William Bishop  
 Alexander P. Corbit  
 Charles E. Gause, Jr.  
 Edward M. Jones

1881

A. B.

William A. Blair, *A. M.*  
 A. Morris Carey  
 Levi T. Edwards, A. M.  
 Edward Y. Hartshorne  
 Isaac T. Johnson, A. M.  
 Edwin O. Kennard  
 Jesse H. Moore  
 William E. Page  
 Walter F. Price, A. M., *A. M.*  
 Thomas N. Winslow  
 John C. Winston

S. B.

Walter Brinton  
 William H. Collins, A. M.  
 Joseph Horace Cook  
 Davis H. Forsythe  
 Albanus L. Smith

1882

A. B.

George A. Barton, A. M., *A. M.*,  
*Ph. D.*  
 Isaac M. Cox  
 Richard B. Hazard  
 Wilmot R. Jones  
 \*Wilmer P. Leeds, \* 1885  
 J. Henley Morgan  
 Edward Randolph

S. B.

John E. Coffin  
 Daniel Corbit  
 George L. Crosman  
 Frederick D. Jones  
 T. Chalkey Palmer  
 Lindley M. Winston

1883

A. B.

John Blanchard, *LL. B.*  
 Frank E. Briggs  
 George H. Evans  
 Francis B. Stuart  
 Bond V. Thomas  
 Thos. K. Worthington, *LL. B.*,  
*Ph. D.*

S. B.

William L. Bailly  
 Stephen W. Collins, *LL. B.*

D. William Edwards

William E. Scull

\*Samuel B. Shoemaker, *M. D.*,

\*1893

John S. Spruance  
 W. Alpheus White  
 Charles H. Whitney  
 Louis B. Whitney

1884

A. B.

John Henry Allen, A. M.  
 Orren William Bates  
 Thomas Herbert Chase  
 William J. Haines  
 Arthur D. Hall  
 Charles D. Jacob  
 Alfred Percival Smith, *A. B.*, *LL. B.*

S. B.

Louis T. Hill  
 Walter L. Moore  
 George Vaux, Jr., *LL. B.*

L. B.

Francis A. White

1885

A. B.

Samuel Bettie  
 Enos L. Doan  
 William T. Ferris  
 William S. Hilles  
 William T. Hussey  
 Arthur W. Jones, A. M.  
 Rufus M. Jones, A. M. *Litt. D.*  
 Joseph L. Markley, A. M., *A. M.*,  
*Ph. D.*

Marriott C. Morris  
 Augustus T. Murray, *Ph. D.*  
 Augustus H. Reeve  
 William F. Reeve  
 Isaac Sutton, *A. M.*, A. M.  
 Elias H. White, *LL. B.*  
 William F. Wickersham, A. M.

S. B.

Charles W. Bailly  
 John J. Blair  
 Thomas Newlin, A. M.  
 Theodore W. Richards, A. M.,  
*Ph. D.*

\*Matthew T. Wilson \*1891

1886

A. B.

Jonathan Dickinson, Jr., A. M.  
 Alexander H. Scott  
 Horace E. Smith  
 Edward D. Wadsworth, LL. B.

S. B.

\*Thomas W. Betts, \*1893  
 Guy R. Johnson  
 William S. McFarland  
 \*Israel Morris, Jr., \*1891  
 William P. Morris  
 Alfred M. Underhill, Jr.  
 Wilfred W. White

1887

A. B.

J. Howe Adams, M. D.  
 Edward B. Cassatt  
 William H. Futrell, LL. B.  
 Alfred C. Garrett, A. B., A. M.,  
*Ph. D.*  
 Henry H. Goddard, A. M., *Ph. D.*  
 Willis Hatfield Hazard, A. M., *Ph. D.*  
 Barker Newhall, A. M., *Ph. D.*  
 Jesse E. Phillips, Jr., A. M.  
 Henry W. Stokes  
 Frederic H. Strawbridge  
 Richard J. White  
 \*George B. Wood, \*1894  
 William C. Wood

S. B.

\*Arthur H. Bailly, \*1889  
 Charles H. Bedell, A. M.  
 Allen B. Clement, A. M.  
 Horace Y. Evans, Jr.  
 Hugh Lesley  
 \*William W. Trimble, \*1891

B. E.

P. Hollingsworth Morris

1888

A. B.

E. Morris Cox  
 Howell S. England, A. M.  
 Allison W. Slocum, A. M.  
 Martin B. Stubbs, A. M., *Ph. D.*

S. B.

Charles H. Battey  
 John C. Corbit, Jr.  
 Morris E. Leeds  
 William Draper Lewis, LL. B.,  
*Ph. D.*  
 Henry V. Gummere, A. M.  
 Francis C. Hartshorne, A. M.,  
*LL. B.*  
 Joseph T. Hilles  
 George Brinton Roberts  
 Joseph W. Sharp, Jr.

B. E.

Lawrence P. Beidelman  
 Joseph E. Johnson, Jr., M. E.  
 Frederick W. Morris, Jr.  
 Richard J. Morris

1889

A. B.

Robert C. Banes  
 Thomas F. Branson, M. D.  
 Charles H. Burr, Jr., A. M., LL. B.  
 Thomas Evans  
 Warner H. Fite, *Ph. D.*  
 Warren C. Goodwin  
 Victor M. Haughton  
 Franklin B. Kirkbride  
 Daniel C. Lewis  
 Lawrence J. Morris  
 William F. Overman  
 Frank W. Pierson, A. M.  
 Samuel Prioleau Ravenel, Jr.,  
*LL. B.*  
 Walter George Reade  
 Lindley M. Stevens, A. M.  
 John Stoddell Stokes  
 \*Layton W. Todhunter, \*1889  
 Frederick N. Vail, A. M.  
 Gilbert C. Wood

S. B.

William R. Dunton, A. M. M. D.  
 Arthur N. Leeds, A. M.  
 J. Henry Painter  
 David J. Reinhardt  
 Frank E. Thompson, A. M.

B. E.

Herbert Morris

1890

A. B.

Edward M. Angell, LL. B.  
 James Stuart Auchincloss

William G. Audenried, Jr.  
 Henry R. Bringham, Jr.  
 Charles T. Cottrell, A. M., *L.L. B.*  
 Guy H. Davies  
 Robert E. Fox  
 Henry L. Gilbert, A. M., *Ph. D.*  
 William G. Jenkins  
 Thomas S. Kirkbride, Jr., *M. D.*  
 Jonathan M. Steere, A. M.

S. B.

Thomas Amory Coffin  
 Percy S. Darlington  
 William M. Guilford, Jr.  
 John N. Guss  
 Edwin J. Haley, A. M.  
 Robert R. Tatnall, A. M., *Ph. D.*  
 Dilworth P. Hibberd, A. M., *L.L. B.*  
 Alfred C. Tevis

B. E.

John F. Taylor Lewis  
 Edward R. Longstreth  
 William Percy Simpson  
 Ernest Forster Walton

1891

A. B.

Harry Alger  
 David H. Blair  
 Henry A. Todd

S. B.

William W. Handy  
 Arthur Hoopes  
 John Wetherill Hutton  
 David L. Mekeel, M. E.  
 John Stokes Morris, A. M.  
 George Thomas, 3rd.

1892

A. B.

Richard Brinton  
 I. Harvey Brumbaugh, *A. B.*  
 Benjamin Cadbury, A. M.  
 Joseph Henry Dennis  
 Warren H. Detwiler, A. M.  
 Rufus Hacker Hall  
 Walter Morris Hart, A. M.  
 Gilbert Joseph Palen, *M. D.*  
 Ralph Warren Stone  
 W. Nelson Loflin West, *L.L. B.*  
 Stanley Rhoads Yarnall, A. M.

S. B.

Augustine W. Blair, A. M.  
 Egbert Snell Cary  
 Minturn Post Collins  
 Charles Gilpin Cook, A. M., *Ph. D.*  
 William Pearson Jenks  
 Franklin McAllister  
 John Wallingford Muir  
 William Hopkins Nicholson, Jr.  
 William Ellis Shipley  
 Joseph Remington Wood, *Ph. G.*,  
 A. M.

1893

A. B.

Leslie Albert Bailey, A. M.  
 \*John Farnum Brown, \*1894  
 Wilbur Albert Estes  
 Walter Winchip Haviland  
 Clarence Gilbert Hoag, *A. B.*,  
 A. M.  
 Carroll Brinton Jacobs, *L.L. B.*  
 George Lindley Jones  
 Charles Osborne  
 Charles James Rhoads  
 Eugene M. Wescott  
 \*Franklin Whittall, \*1894  
 Gifford King Wright

S. B.

Francis F. Davis, A. M.  
 Arthur Villiers Morton  
 John Mickle Okie  
 Edward Rhoads, *Ph. D.*  
 John Roberts  
 Barton Sensenig  
 William Sansom Vaux, Jr.  
 Edward Woolman

1894

A. B.

George A. Beyerle  
 Charles Collins  
 William Wistar Conifort, *A. B.*,  
 A. M.  
 John Allen DeCou, *A. B.*, A. M.  
 Clifford Bailey Farr, *M. D.*  
 John Paul Houghton  
 James Edward Hughes  
 Louis Jaquette Palmer  
 Frank Clayton Rex  
 Frederick Pearce Ristine  
 Francis Joseph Stokes  
 David Shearman Taber, Jr.  
 Parker Shortridge Williams

## S. B.

J. Henry Bartlett  
 Oscar Marshall Chase, S. M.  
 Henry Shoemaker Conard, A. M.  
 George Brookhouse Dean, *M. D.*  
 Kane Stovell Green  
 Anson Burlingame Harvey, A. M.  
 Samuel Wheeler Morris  
 Edward Entwisle Quimby  
 Henry Wismer Scarborough, A. M.,  
*LL. B.*

William Justus Strawbridge

1895

## A. B.

Samuel Bettle, Jr.  
 Edmund Blanchard, Jr., *LL. B.*  
 Samuel Hulme Brown  
 Frank Henry Conklin  
 Charles Howland Cookman  
 James Linton Engle  
 Joseph Spragg Evans, Jr., *M. D.*  
 Henry John Harris  
 George Lippincott, *A. B.*

## S. B.

William Goodman, *A. B.*  
 Arthur Moorhead Hay  
 Erroll Baldwin Hay  
 William Smedley Hilles  
 John Bacon Leeds  
 Charles Clifford Taylor  
 Allen Curry Thomas, A. M., *LL. B.*  
 Henry Evan Thomas  
 Walter Coates Webster

1896

## A. B.

Douglas Howe Adams, *A. B.*  
 George Raymond Allen  
 Milton Clauser  
 Arthur Fernandez Coca, A. M.  
 George Henry Deuell  
 Thomas Harvey Haines, A. M., *A. M.*  
 John Ashby Lester, A. M., *A. M.*  
 Paul D. I. Maier  
 Joseph Henry Scattergood, *A. B.*  
 Levi Hollingsworth Wood, *LL. B.*

## S. B.

William Kite Alsop  
 William Henry Bettle  
 Samuel Kriebel Brecht  
 Mark Brooke

Albert Dempsey Hartley  
 Charles Russell Hinchman  
 John Quincy Hunsicker, Jr.  
 Samuel Middleton  
 Charles Dickens Nason, *Ph. D.*  
 Marshall Warren Way, *LL. B.*  
 Homer Jephtha Webster, A. M.

1897

## A. B.

Richard Cadbury Brown, *A. B.*  
 Morton Pennock Darlington  
 Elliot Field  
 Vincent Gilpin, *A. B.*  
 Benjamin Rose Hoffman  
 Charles Henry Howson  
 John Elias Hume  
 Francis Norton Maxfield  
 Roswell Cheyney McCrea  
 Ottis Earl Mendenhall, A. M.  
 Warren Brown Rodney  
 Edward Thomas  
 Henry Alva White

## S. B.

William John Burns  
 Morris Burgess Dean  
 Frank Hughes Detwiler  
 Francis Brinton Jacobs  
 George Martin Palmer  
 Charles Gibbons Tatnall  
 William Jordan Taylor  
 Frank William Thacher

1898

## A. B.

James Edgar Butler  
 William Warder Cadbury, A. M.  
 Alfred Sharpless Haines  
 Joseph Howell Haines  
 Arthur Search Harding, *A. B.*  
 Samuel Horace Hodgins  
 Walter Coggeshall Janney  
 Morris Matthews Lee  
 Oscar Peyton Moffitt  
 Samuel Rhoads  
 Alfred Garrett Scattergood, *A. B.*  
 Frederick Stadelman  
 Ira Isbon Sterner, A. M.  
 Frederick Asa Swan  
 Robert North Wilson  
 Thomas Wistar  
 Richard Davis Wood

## S. B.

Richard Stanton Ellis  
John Gyger Embree  
Davis Godfrey Jones  
Eldon Roxy Ross  
Francis Reeves Strawbridge  
Joseph Wright Taylor

1899

## A. B.

William John Bawden  
Walter Elihu Blair  
William Bode  
Royal Jenkins Davis  
Francis Algernon Evans  
Rufus Horton Jones

Arthur Clement Wild  
Howard Haines Lowry  
Edward Hough Lycett  
Joseph Paul Morris  
Herbert Clinton Petty  
Malcolm Augustus Shipley, Jr.  
Frank Keller Walter

## S. B.

William Aldrich Battey  
John Darlington Carter  
Edward B. Conklin  
Benjamin Satterthwait DeCou  
Alfred Collins Maule  
Ralph Mellor  
John Howard Redfield, Jr.  
Elisha Roberts Richie

Whole number of graduates, 647.

The following resident graduate students have received advanced degrees, not having been undergraduates at Haverford:

## 1890

William B. Eaton, A. B., Wesleyan, 1889, A. M.  
Charles L. Michener, A. B., Penn, 1884, A. M.  
Charles E. Pritchard, A. B., Earlham, 1889, A. M.  
Robert W. Rogers, A. B., Johns Hopkins, 1887, Ph. D.  
William C. Sayrs, A. B., Wilmington, 1889, A. M.  
Charles E. Terrell, S. B., Wilmington, 1888, A. M.  
Charles H. Thurber, Ph.B., Cornell, 1886, A. M.

## 1891

Lawrence M. Byers, A. B., Penn, 1890, A. M.  
\*William H. Carroll, A. B., Wilmington, 1890, A. M., \*1897.  
Myron F. Hill, A. B., Harvard, 1890, A. M.  
Lucian M. Robinson, A. B., Harvard, 1882, A. M.

## 1892

Elmer A. Gifford, S. B., Penn, 1888, A. M.  
Byron Charles Hubbard, S. B., Earlham, 1891, A. M.

## 1893

Irving Culver Johnson, S. B., Penn, 1892, A. M.  
Leonard Charles Van Noppen, A. B., Guilford, 1890, B. L., Univ. N. C.  
1892, A. M.

1894

Franklin A. Dakin, A. B., Harvard, 1882, A. M.  
 William W. Hastings, A. B. and A. M., Maryville, 1886 and 1892, A. M.  
 Mahlon Z. Kirk, S. B., Penn, 1893, A. M.  
 Arthur R. Spaid, A. B., Wilmington, 1893, A. M.  
 Edwin Mood Wilson, A. B., Guilford, 1892, A. B., Univ. N. C., 1893, A. M.

1895

Ira O. Kemble, S. B., Penn, 1894, A. M.  
 John Oscar Villars, S. B., Wilmington, 1894, A. M.  
 Roy Wilson White, S. B., Earlham, 1894, A. M.

1896

James Addison Babbitt, A. B., Yale, 1893, A. M.  
 Arthur Matthew Charles, S. B., Earlham, 1894, A. M.  
 Horace Thornburg Owen, A. B., Hamilton, 1895, A. M.  
 Luther Milton Hunt, S. B., Wilmington, 1895, A. M.  
 Clement Finney Patterson, Ph.B., Penn, 1895, A. M.  
 William W. Hastings, A. B. and A. M., Maryville, 1886, 1892, A. M.,  
 Haverford, 1894, Ph.D.

1897

William Otis Beal, S. B., Earlham, 1896, A. M.  
 Frank Whittier Else, A. B., Penn, 1896, A. M.  
 Paul Tasso Terrell, S. B., Wilmington, 1896, A. M.

## HONORARY DEGREES.

1858

Hugh D. Vail, A. M.

1859

\*Joseph W. Aldrich, A. M., \*1865

1860

\*John G. Whittier, A. M., \*1892

1864

\*Edward D. Cope, A. M., \*1897

1867

Joseph Moore, A. M.

1872

William Jacobs, A. M.

1875

\*Samuel Alsop, Jr., A. M., \*1888

1876

\*Pliny E. Chase, LL.D., \*1886

\*William H. Pancoast, A. M., \*1897

1877

\*John J. Thomas, A. M., \*1895

1879

Richard M. Jones, A. M.

Ellis Yarnall, A. M.

1880

\*Thomas Chase, LL.D., \*1892

\*Thomas Hughes, LL.D., \*1896

1882

Henry T. Coates, A. M.

1883

\*Thomas F. Cock, LL.D., \*1896

James Wood, A. M.

Henry N. Hoxie, A. M.

1884

\*Joseph Parrish, A. M., \*1893

Elijah Cook, A. M.

1885

\*Julius L. Tomlinson, A. M., \*1890

Robert Howland Chase, A. M.

1886

Edward H. Magill, LL.D.

1887

\*Thomas Kimber, LL.D., \*1890

1888

Clement L. Smith, LL.D.

1890

Joseph J. Mills, LL.D.

1891

Richard M. Jones, LL.D.

1895

\*Henry Trimble, A. M., \*1898



## HOLDERS OF THE HAVERFORD GRADUATE SCHOLARSHIP.

---

1889-90,	{ CHARLES H. BURR
	{ FRANK E. THOMPSON
1890-91,	DILWORTH P. HIBBERD
1891-92,	DAVID LANE MEKEEL
1892-93,	STANLEY RHOADS YARNALL
1893-94,	FRANCIS F. DAVIS
1894-95,	HENRY S. CONARD
1896-97,	JOHN A. LESTER
1897	ABOLISHED

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## HOLDERS OF THE HAVERFORD FELLOWSHIP.

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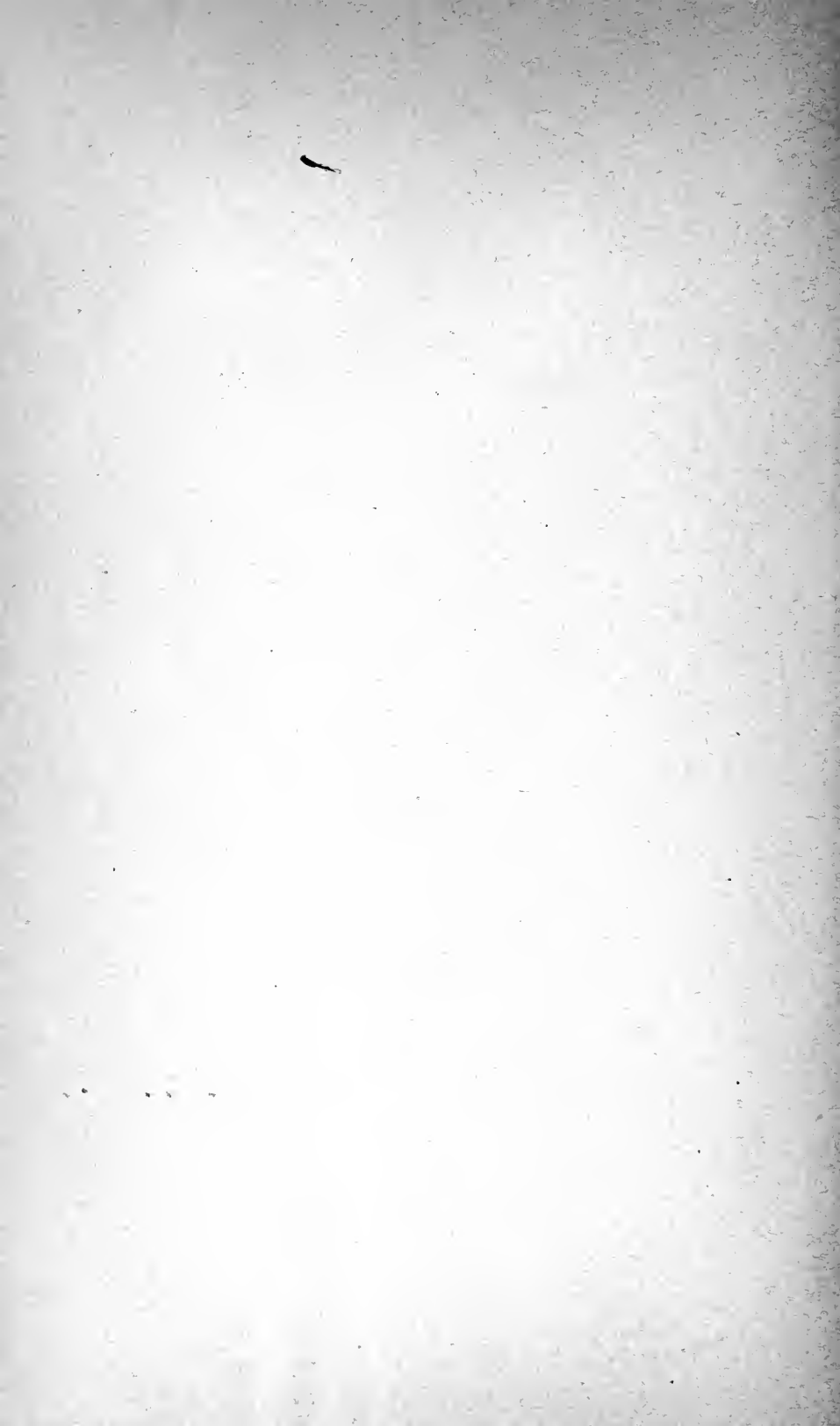
1897-98,	JOHN ASHBY LESTER, at Harvard University.
1898-99,	MORRIS MATTHEWS LEE, at Harvard University.
1899-1900,	JOHN DARLINGTON CARTER, at Johns Hopkins University.



# HAVERFORD COLLEGE

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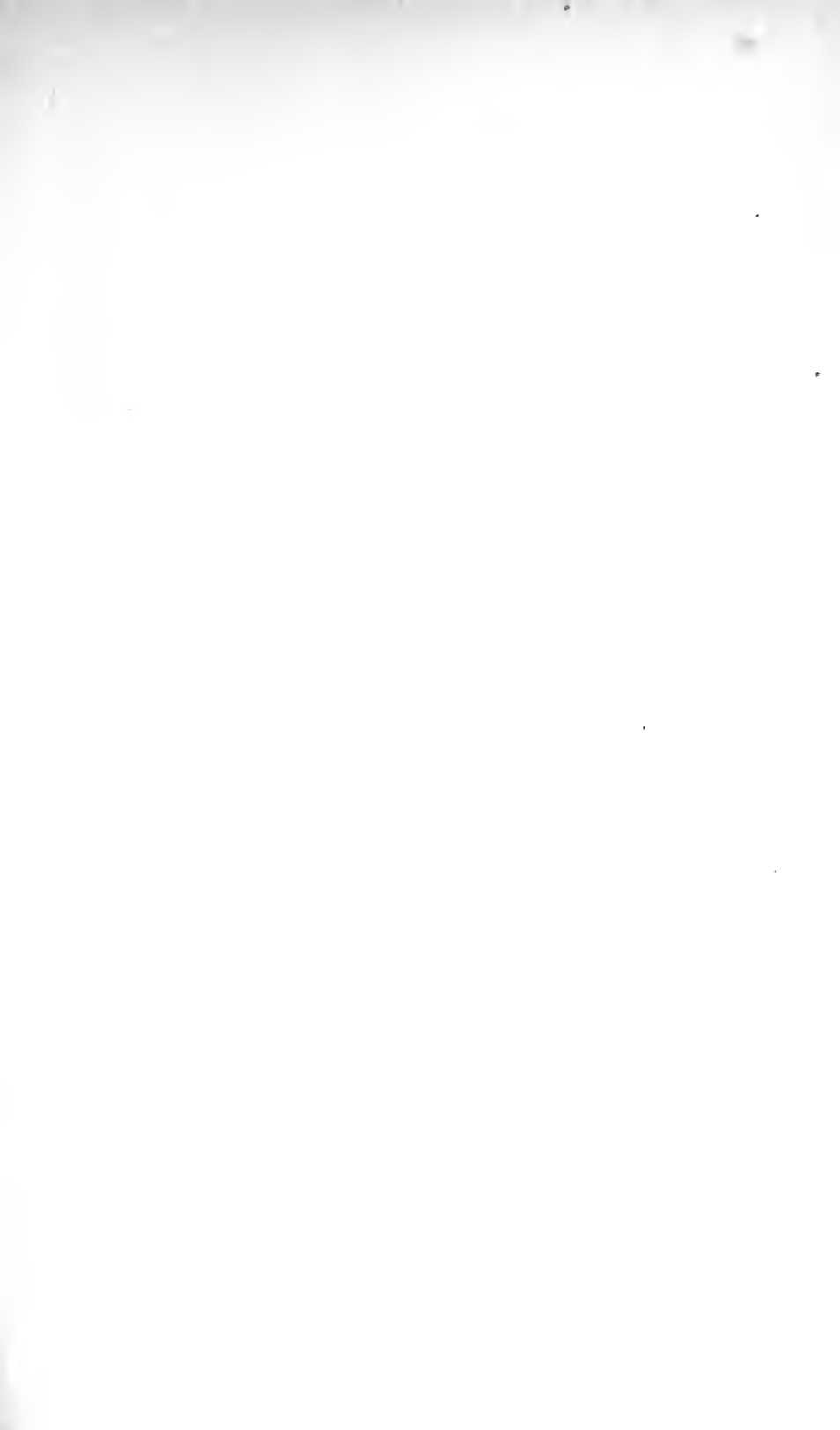
# Haverford College

Haverford, Pa.



1900-1901

THE PRESIDENT desires to place a copy of the Annual Catalogue in the hands of every alumnus and member of the Corporation. It is requested that all omissions and errors, whether of names or degrees, be reported to the Secretary of the College.







CATALOGUE

OF

HAVERFORD COLLEGE

HAVERFORD, PA.

1900-1901



PHILADELPHIA  
PRESS OF THE LEEDS & BIDDLE CO.  
1019-21 MARKET STREET  
1900

# CALENDAR.

## 1900-1901.

College Year 1900-1901 began.....	9th Mo.	26
Winter Recess begins.....	12th Mo.	22
Winter Term begins 1901* .....	1st Mo.	2
Second Half-year begins.....	2nd Mo.	4
Junior Exercises.....	4th Mo.	10
Spring Recess begins.....	4th Mo.	11
Spring Term begins*.....	4th Mo.	23
Examinations for Admission.....	6th Mo.	10-11
Alumni Meeting.....	6th Mo.	12
Senior Class Day.....	6th Mo.	13
Commencement Day, 1901.....	6th Mo.	14

## 1901-1902.

Examinations for Admission .....	9th Mo.	23-24
College Year 1901-1902 begins*.....	9th Mo.	25
Winter Recess begins.....	12th Mo.	21
Winter Term begins, 1902*.....	1st Mo.	2
Commencement Day, 1902 .....	6th Mo.	13

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\* The first classes at the beginning of each term are held promptly at *half-past nine o'clock*. No absences from them are excused, unless clearly unavoidable.

HISTORY AND DESCRIPTION.

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IN the spring of 1830, a meeting of a few Friends in Philadelphia, shortly followed by a similar meeting in New York, originated Haverford School. The joint committee expressed the object of the effort as follows: "The members of the Society of Friends, having hitherto labored under great disadvantages in obtaining for their children a guarded education in the higher branches of learning, combining the requisite literary instruction with a religious care over the morals and manners of the scholars, . . . and carefully preserving them from the influence of corrupt principles and evil-communications, it is therefore proposed that an institution be established in which the children of Friends shall receive a liberal education in ancient and modern literature, and the mathematical and other sciences."

The \$40,000 supposed to be necessary was raised without great effort, and the committee went out to seek a location. "We wished to procure," they say, "a farm in a neighborhood of unquestionable salubrity—within a short distance of a Friends' meeting—of easy access from this city at all seasons of the year . . . and one that was recommended by the beauty of the scenery and a retired situation." They then report that, of the many places inspected by them, the only one which combined all the advantages was one of 198½ acres (since increased to 215), "near the eight-mile stone of the Lancaster turnpike." They explain the present and prospective merits of the farm, the beauty of the natural woods, the unfailing springs of purest water, the nearness to the new Pennsylvania railroad, in words which the succeeding half-century has amply justified.

On the 28th of Tenth month, 1833, the School opened with 21 students. Provision had been made for a superintendent and three teachers:—

A Teacher of Ancient Languages and Ancient Literature.

A Teacher of English Literature, and Mental and Moral Philosophy.

A Teacher of Mathematics and Natural Philosophy.

The superintendent was to have charge of the government, order, and domestic economy of the family.

The regulations of the new School were rigid. The bounds and hours of the boys were very strictly prescribed. All the details of the daily program were arranged with great care; and if the elaborate provision of a number of wise men for the normal growth of students could convert boys into perfect men, the students of sixty-five years ago had every advantage.

The School thus established grew rapidly into prosperity and debt. The charges were low, the teachers were liberally paid, and the years which followed were marked by a constant endeavor to produce a maximum of good fruits from very limited funds. The deficiencies were made up in a liberal spirit, and a constant growth was maintained by frequent subscriptions. All the time the School was justifying the effort by the quality of its results, and making for itself an increasing number of friends.

One of the first acts of the committee, after provision for absolute necessities, was to construct a gymnasium, and make arrangements for systematic physical work. They were determined that the advantage gained by the salubrity of the surroundings should not be lost for want of exercise. Under their care the lawn was graded at a great expense, and foreign and native trees set out, with the design to make it a great arboretum. Cricket, a game not then known elsewhere in America, was introduced and has flourished ever since. A greenhouse and flower-garden were established and maintained for twenty years by the work of the boys. The idea that has done harm elsewhere, that schools are places for mental development only, had no foothold here; but morals, muscles, and senses received their due share of culture.

In 1845 a temporary suspension was decreed to allow the funds to accumulate, and to give time for the collection of an endowment. This suspension lasted for three years. In 1852 the Observatory was built, and supplied with an 8-inch equatorial and a 4-inch transit. In 1856 the School was changed to a college, and was

authorized by the legislature to grant degrees; but previous to this time the course had been as extended as in most colleges. It was still hampered with a preparatory department, which was not abolished till 1861. In 1863 the Alumni Hall and Library were built. In 1876-7, Barclay Hall, containing private dormitories and study-rooms, was erected at a cost of \$82,000, which was collected by subscription. The Chemical Laboratories were improved in 1878. The new Observatory was built in 1883. The Mechanical Laboratory was established in 1884, and was provided with a new building in 1890. This was burned down in 1896, and Whitall Hall, a new three-story stone structure, was built. The Biological Laboratory was established in 1886, and the Physical Laboratory in 1888. Chase Hall, for lectures and recitations, was built in 1888, and the Cricket Shed in 1893. The new Library Building and Alumni Hall were erected in 1898, and the first two sections of Lloyd Hall in 1899. In 1900 a large and beautiful Gymnasium was built by the alumni, at an expense of \$50,000. Various donations and bequests were received during these years, and in 1897 the Jacob P. Jones endowment, worth about a million dollars, was paid to the College.

During this time Haverford had developed into a fully organized college. Many rules, adapted to boys of boarding-school age, had been modified or abandoned, though enough of restraint was retained to provide against demoralization. The standard of admission was raised. Students of any denomination were admitted. The number of teachers was increased six-fold. The annual charge was increased from \$200 to \$500,\* which still fails to represent what the College has to pay for professors' salaries and the board and care of students.

In Barclay and Lloyd Halls two students occupy a study-room, and each has his private bed-room adjoining. A few single rooms are also available. Recitation-rooms, laboratories, and the dining-room are in Founders' Hall. The library, which now contains about 37,000 volumes, and the observatory, with valuable instruments, are located in separate buildings. Some of the

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\* The price may vary, depending on the situation of the room, from \$400 to \$600.

professors live in the halls with the students, and others have cottages on the grounds.

The College has a remarkably pleasant and healthful location in the township of Haverford, Delaware County,\* Pa., nine miles west of the center of Philadelphia, on the main line of the Pennsylvania railroad. The buildings are surrounded by grounds of about sixty acres, tastefully laid out, with a great variety of trees and shrubbery. The grounds provide excellent fields for cricket, football, golf, tennis, and other field games, a running and bicycle track, and a pond for skating.

Retaining the old idea of a "guarded education" and "a religious care over morals and manners," the College has sought to attain such ideals, and has measurably succeeded, by appeals to Christian principle and manliness, rather than by the exercise of arbitrary power.

---

\* Haverford *Post Office* is in Montgomery County.

## CORPORATION.

*President,*

T. WISTAR BROWN,

233 Chestnut Street, Philadelphia.

*Secretary,*

J. STOGDELL STOKES,

64 North Fourth Street, Philadelphia.

*Treasurer,*

ASA S. WING,

409 Chestnut Street, Philadelphia.

*Managers,*

T. WISTAR BROWN,  
 PHILIP C. GARRETT,  
 DAVID SCULL,  
 RICHARD WOOD,  
 CHARLES HARTSHORNE,  
 JOHN B. GARRETT,  
 EDWARD BETTLE, JR.,  
 CHARLES ROBERTS,  
 FRANCIS WHITE,  
 BENJAMIN H. SHOEMAKER,  
 HOWARD COMFORT,  
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 ASA S. WING,

FRANCIS STOKES,  
 JAMES WOOD,  
 ABRAM F. HUSTON,  
 J. PRESTON THOMAS,  
 WILLIAM H. HAINES,  
 WALTER WOOD,  
 GEORGE VAUX, JR.,  
 RICHARD M. JONES,  
 WILLIAM H. JENKS,  
 FRANCIS A. WHITE,  
 STEPHEN W. COLLINS,  
 JONATHAN EVANS,  
 SAMUEL L. ALLEN,

J. STOGDELL STOKES.

*Secretary of the Board,*

HOWARD COMFORT,

529 Arch Street, Philadelphia.

*Executive Committee,*

JOHN B. GARRETT,  
 DAVID SCULL,  
 EDWARD BETTLE, JR.,  
 PHILIP C. GARRETT,  
 CHARLES ROBERTS,

JUSTUS C. STRAWBRIDGE,  
 HOWARD COMFORT,  
 ASA S. WING,  
 RICHARD WOOD,  
 JAMES WOOD.

FACULTY.

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ISAAC SHARPLESS, Sc. D., LL. D., PRESIDENT,  
and Professor of Ethics.

ALLEN C. THOMAS, A. M., LIBRARIAN,  
and Professor of History.

LYMAN BEECHER HALL, PH. D.,  
John Farnum Professor of Chemistry.

SETH K. GIFFORD, A. M.,  
Professor of Greek.

LEVI T. EDWARDS, A. M.,  
Professor of Mechanics and Electricity.

WILLIAM COFFIN LADD, A. M.,  
Professor of French.

FRANCIS B. GUMMERE, PH. D.,  
Professor of English and German.

ERNEST WILLIAM BROWN, Sc. D., F. R. S.,  
Professor of Mathematics.

WILFRED P. MUSTARD, PH. D.,  
Professor of Latin.

WILLIAM H. COLLINS, A. M., PREFECT,  
and Director of the Observatory.



HENRY S. PRATT, PH. D.,  
Associate Professor of Biology (David Scull Foundation).

JAMES A. BABBITT, A. M., M. D., REGISTRAR,  
and Instructor in Physical Training.

\*RUFUS M. JONES, A. M., LITT. D.,  
Instructor in Philosophy.

OSCAR MARSHALL CHASE, S. M., COLLEGE SECRETARY,  
and Instructor in Drawing.

ALBERT S. BOLLES, PH. D., LL. D.,  
Lecturer on Commercial Law and Banking.

DON C. BARRETT, A. M.,  
Instructor in Political Science.

ALBERT ELMER HANCOCK, PH. D.,  
Instructor in English and German.

FREDERICK A. SAUNDERS, PH. D.,  
Instructor in Physics.

LEGH WILBER REID, PH. D.,  
Instructor in Mathematics.

HENRY HERBERT GODDARD, PH. D.,  
Instructor in Philosophy.

JOHN DARLINGTON CARTER, S. B.,  
Assistant in Chemistry.

CHARLES HENRY CARTER, A. B.,  
Assistant in German.

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\*Absent 1900-1901.

## STUDENTS.

## GRADUATE STUDENTS.

Carter, Charles Henry, A. B. (Haverford), West Chester, Pa.  
 Carter, John Darlington, S. B. (Haverford), West Chester, Pa.  
 Carter, John Pim, A. B. (Haverford), Germantown, Pa.

## SENIOR CLASS.

Baltz, William Sagehorn,	<i>Whilford, Pa.,</i>	Mechanical Eng.
Bankard, Clarence Walton,	<i>Berwyn, Pa.,</i>	Arts.
Brown, Ellis Yarnall, Jr.,	<i>Downingtown, Pa.,</i>	Arts.
Bullinger, Howard Valentine,	<i>Philadelphia, Pa.,</i>	Arts.
Cadbury, John Warder, Jr.,	<i>Philadelphia, Pa.,</i>	Arts.
Cadbury, William Edward,	<i>Philadelphia, Pa.,</i>	Arts.
Carey, Clifton O'Neal,	<i>Wilmington, Ohio,</i>	Science.
De Armond, James Keyser,	<i>Merion, Pa.,</i>	Arts.
De Motte, Lawrence Washburn,	<i>Greencastle, Ind.,</i>	Arts.
Deweese, Aaron Lovett,	<i>Westtown, Pa.,</i>	Arts.
Freeman, Alfred Edgar,	<i>Philadelphia, Pa.,</i>	Science.
Kirkbride, William Howard,	<i>Philadelphia, Pa.,</i>	Science.
Mellor, Walter,	<i>Philadelphia, Pa.,</i>	Mechanical Eng.
Mendenhall, William Orville,	<i>Oskaloosa, Iowa,</i>	Arts.
Meredith, Clement Orestes,	<i>Lego, N. C.,</i>	Arts.
Neilson, William La Coste,	<i>Philadelphia, Pa.,</i>	Arts.
Patton, Richard,	<i>Wayne, Pa.,</i>	Arts.
Rossmässler, Edward Collins,	<i>Germantown, Pa.,</i>	Mechanical Eng.
Rush, Calvin Cicero,	<i>Fairmount, Ind.,</i>	Science.
Scull, Edward Marshall,	<i>Overbrook, Pa.,</i>	Arts.
Sensenig, Wayne,	<i>Goodville, Pa.,</i>	Arts.
Sharp, Frederick William,	<i>Berwyn, Pa.,</i>	Arts.
Tomlinson, Alexander Cooper,	<i>Laurel Springs, N. J.,</i>	Special.
Walenta, George John,	<i>Philadelphia, Pa.,</i>	Arts.
Winslow, John Leiper,	<i>Baltimore, Md.,</i>	Arts.
Wirgman, William Wayne,	<i>Paoli, Pa.,</i>	Mechanical Eng.
Wood, Walter Hallock,	<i>Farmington, N. Y.,</i>	Arts.
Woodward, William Wellington,	<i>West Chester, Pa.,</i>	Arts.
Yearsley, Arthur Ralston,	<i>Coatesville, Pa.,</i>	Science.

## JUNIOR CLASS.

Balderston, Henry Lloyd,	<i>Colora, Md.,</i>	Mechanical Eng.
Barclay, Joseph John,	<i>Bedford, Pa.,</i>	Arts.
Boles, Edgar Howard,	<i>Ardmore, Pa.,</i>	Arts.
Brown, Shipley,	<i>Westtown, Pa.,</i>	Science.
Cary, Charles Reed,	<i>Philadelphia, Pa.,</i>	Science.
Caswell, Andrew Baird,	<i>Olney, Ill.,</i>	Arts.
Cookman, Arthur Shirley,	<i>Wilmington, Del.,</i>	Arts.
Dennis, William Varney,	<i>Dover, N. H.,</i>	Arts.
Evans, Charles,	<i>Norristown, Pa.,</i>	Arts.
Evans, Edward Wyatt,	<i>Germantown, Pa.,</i>	Arts.
Fox, John Sharpless,	<i>West Chester, Pa.,</i>	Arts.
Garrett, George Spencer,	<i>Lansdowne, Pa.,</i>	Science.
Grant, William Henry,	<i>Woonsocket, R. I.,</i>	Mechanical Eng.
Gummere, Richard Mott,	<i>Haverford, Pa.,</i>	Arts.
Haviland, Joseph Bernard,	<i>Glen's Fall, N. Y.,</i>	Arts.
Johnson, Carl,	<i>Oskaloosa, Iowa,</i>	Science.
Jones, S. Percy,	<i>Germantown, Pa.,</i>	Science.
Kirk, Edward Goodwin,	<i>West Chester, Pa.,</i>	Arts.
Longstreth, William Collins,	<i>Philadelphia, Pa.,</i>	Arts.
Nicholson, Percival,	<i>Haverford, Pa.,</i>	Science.
Philips, William Pyle,	<i>West Chester, Pa.,</i>	Arts.
Pusey, William Webb, II.,	<i>Wilmington, Del.,</i>	Science.
Reeder, John Wallace,	<i>Bellefonte, Pa.,</i>	Science.
Roberts, David Allen,	<i>Moorestown, N. J.,</i>	Mechanical Eng.
Ross, Robert John,	<i>Ardmore, Pa.,</i>	Mechanical Eng.
Scattergood, Herbert Armitt,	<i>West Chester, Pa.,</i>	Mechanical Eng.
Scott, Norris Alexander,	<i>Moylan, Pa.,</i>	Mechanical Eng.
Seiler, Carlino Linn,	<i>Lewisburg, Pa.,</i>	Mechanical Eng.
Spiers, Alexander Guy Holborn,	<i>Wayne, Pa.,</i>	Arts.
Stone, John Lyon,	<i>Warren, Pa.,</i>	Arts.
Stork, Charles Wharton,	<i>Germantown, Pa.,</i>	Arts.
Thomas, George Herbert,	<i>Philadelphia, Pa.,</i>	Science.
Trout, Edgar Earl,	<i>Wayne, Pa.,</i>	Science.
Wistar, Caspar,	<i>La Mott, Pa.,</i>	Special.
Wood, Alexander Cooper, Jr.,	<i>Cinnaminson, N. J.,</i>	Arts.
Woodward, Parke Lewis,	<i>West Chester, Pa.,</i>	Science.

## SOPHOMORE CLASS.

Barr, Franklin Elverson,	<i>Camden, N. J.,</i>	Arts.
Bateman, Edwin Brooke,	<i>West Chester, Pa.,</i>	Mechanical Eng.

Cadbury, Henry Joel,	<i>Philadelphia, Pa.,</i>	Arts.
Chambers, William Wilkie,	<i>Bryn Mawr, Pa.,</i>	Arts.
Cornman, Clarence Raymond,	<i>Merion Square, Pa.,</i>	Arts.
Dean, Archer Griffin,	<i>Cincinnati, Ohio,</i>	Mechanical Eng.
Dominovich, Harry Anthony,	<i>Philadelphia, Pa.,</i>	Arts.
Drinker, James Blathwaite,	<i>Haverford, Pa.,</i>	Arts.
Duerr, Otto Eugene,	<i>South Bethlehem, Pa.,</i>	Mechanical Eng.
Eshleman, Ulysses Mercur,	<i>Lancaster, Pa.,</i>	Arts.
Hoffman, Enoch Farson,	<i>Bryn Mawr, Pa.,</i>	Arts.
Murphy, Eugene Besson,	<i>Philadelphia, Pa.,</i>	Science.
Peirce, George,	<i>Germantown, Pa.,</i>	Arts.
Phillips, Arthur John,	<i>Woonsocket, R. I.,</i>	Arts.
Rabinowitz, Elias Nathan,	<i>Philadelphia, Pa.,</i>	Arts.
Schrag, Andrew D.,	<i>Mound Ridge, Kansas,</i>	Arts.
Simkin, Robert Louis,	<i>West Branch, N. Y.,</i>	Arts.
Swift, Willard Everett,	<i>Worcester, Mass.,</i>	Special.
Tilney, Israel Sheldon,	<i>Orange, N. J.,</i>	Arts.
Warrington, Samuel Abbott,	<i>Philadelphia, Pa.,</i>	Science.
Wilson, Samuel Norman,	<i>Oxford, Pa.,</i>	Arts.
Winslow, Fitzrandolph,	<i>Baltimore, Md.,</i>	Arts.
Worthington, Joseph Kent,	<i>Haverford, Pa.,</i>	Arts.

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### FRESHMAN CLASS.

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Bevan, Edwin Jay,	<i>Rosemont, Pa.,</i>	Mechanical Eng.
Bonbright, William Parker,	<i>Haverford, Pa.,</i>	Arts.
Bradley, William Summers,	<i>Philadelphia, Pa.,</i>	Special.
Brinton, Howard Haines,	<i>West Chester, Pa.,</i>	Arts.
Burgess, Daniel Lawrence,	<i>Poughkeepsie, N. Y.,</i>	Arts.
Clark, Joseph Woodburn,	<i>Westtown, Pa.,</i>	Mechanical Eng.
Crowell, Arthur,	<i>Avondale, Pa.,</i>	Mechanical Eng.
Folwell, Philip Donald,	<i>Philadelphia, Pa.,</i>	Science.
Greb, John Walter,	<i>Philadelphia, Pa.,</i>	Arts.
Haig, Chester Raymond,	<i>Germantown, Pa.,</i>	Arts.
Helbert, George Kingman,	<i>St. Davids, Pa.,</i>	Mechanical Eng.
Hilles, William Tatum,	<i>Cincinnati, Ohio,</i>	Arts.
Kratz, Abel Wesley,	<i>Lansdale, Pa.,</i>	Arts.
Kimber, Wm. Marmaduke Cope,	<i>Germantown, Pa.,</i>	Arts.
Lester, Bernard,	<i>Pasadena, Cal.,</i>	Mechanical Eng.
Lowry, Robert Pharo,	<i>Philadelphia, Pa.,</i>	Special.
Megear, Thomas Jefferson,	<i>Philadelphia, Pa.,</i>	Mechanical Eng.
Morris, Charles Christopher,	<i>Philadelphia, Pa.,</i>	Science.

Morris, Harold Hollingsworth,	<i>Philadelphia, Pa.,</i>	Science.
Owen, Charles Raymond,	<i>Toughkenamon, Pa.,</i>	Science.
Perkins, Lindley Murray, Jr.,	<i>Baxter Springs, Kans.,</i>	Mechanical Eng.
Powell, Wilfred Mansell,	<i>Rosemont, Pa.,</i>	Special.
Schabacker, Harold Messner,	<i>Erie, Pa.,</i>	Mechanical Eng.
Sheldon, Carlos Noyes,	<i>Swanton, Vt.,</i>	Arts.
Stokes, James Martin, Jr.,	<i>Moorestown, N. J.,</i>	Arts.
Thomas, John Roberts,	<i>Whitford, Pa.,</i>	Science.
Thorn, Henry Norman,	<i>Medford, N. J.,</i>	Arts.
West, Erwyn Porter,	<i>Philadelphia, Pa.,</i>	Mechanical Eng.
Wills, William Mintzer,	<i>East Downingtown, Pa.,</i>	Arts.
Withers, Samuel Clayton,	<i>Union Deposit, Pa.,</i>	Arts.

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## SUMMARY.

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## ADMISSION.

**Candidates for the Freshman Class are admitted only on examination.**

Examinations are held twice a year, in the Sixth and Ninth months.

They will be at the College, except in the case of distant candidates, for whom special arrangements may be made.

In 1901 the dates will be as follows:—

*Sixth month 10th, and Ninth month 23rd.*

9-10	{	Latin Composition	1½-3	Algebra
		Elementary Physics	3-4	Plane Geometry

10-11	Latin Prose Authors	4-5	{ Greek Composition Solid Geometry
11-12	{ Latin Poets English History		

*Sixth month 11th, and Ninth month 24th.*

9-11	{ Greek Authors French	1½-3½	German
11¼-12¾	English	3½-4½	{ Greek History U. S. History
		4½-5½	Roman History

A candidate may pass a preliminary examination in some of his studies, and be examined in the remaining studies in a subsequent year. A certificate will be given for the studies passed. No student will be admitted to a preliminary examination without a certificate of preparation from his teacher, specifying the subjects in which he is prepared.

Certificates of the College Entrance Examination Board of the Middle States and Maryland will be accepted in place of corresponding Haverford examinations.

Candidates for Corporation scholarships (see page 30) must take all their examinations not later than the Sixth month of the year of entry. Such candidates should announce their intention at least two weeks before the time of examination.

#### SUBJECTS FOR EXAMINATION.

For all Candidates :

##### ENGLISH.\*

I. *Reading*.—Certain books are selected for reading. The candidate will be required to present evidence of a general knowledge of the subject-matter. The form of examination will usually be the writing of a paragraph or two on each of several topics, to be chosen by the candidate from a considerable number set before him in the examination paper. The treatment of these

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\* NOTE—No candidate will be accepted in English whose work is notably defective in point of spelling, punctuation, idiom, or division of paragraphs.

topics should show the candidate's power of clear and accurate expression, and will call only for a general knowledge of the substance of the books.

The books selected for this part of the examination will be in 1901 and 1902 : George Eliot's *Silas Marner* ; Pope's translation of the *Iliad* (Books I, VI, XXII, and XXIV) ; The *Sir Roger de Coverley Papers* in *The Spectator* ; Goldsmith's *Vicar of Wakefield* ; Scott's *Ivanhoe* ; Shakspeare's *Merchant of Venice* ; Cooper's *Last of the Mohicans* ; Tennyson's *Princess* ; Coleridge's *Rime of the Ancient Mariner*.

II. *Study and Practice*.—This part of the examination presupposes the thorough study of each of the works named below. The examination will be upon the subject-matter, style, and construction.

The books selected for this part of the examination will be in 1901 and 1902 : Shakspeare's *Macbeth* ; Milton's *L'Allegro*, *Il Penseroso*, *Comus*, and *Lycidas* ; Burke's speech on *Conciliation with America* ; Macaulay's essays on *Addison* and *Milton*.

MATHEMATICS.—Algebra, including quadratic equations and radicals ; plane geometry. Solid geometry will be required of all students not presenting Greek.

SCIENCE.—Elementary physics will be required of all students presenting neither Greek nor Latin.

HISTORY.—Any two of the following may be offered, except that candidates presenting the Greek language must also offer Greek history, and candidates presenting Latin, Roman history.

1. Greek History to the death of Alexander.
2. Roman History to the death of Marcus Aurelius.
3. English History.
4. American History, including the periods of discovery and colonization.

## THE FOLLOWING LANGUAGES : \*

GREEK.—(a) Xenophon, the *Anabasis*, Books I-IV ; Homer, the *Iliad*, Books I-III, omitting the Catalogue of Ships. The examination will be designed to test the candidate's knowledge of grammatical forms and constructions, and his ability to translate into idiomatic English. (b) The translation at sight of simple Attic prose. (c) The translation into Greek of a simple English passage, based upon some portion of the Xenophon prescribed.

LATIN.—(a) Caesar, the *Gallic War*, Books I-IV ; Cicero, the speech on the *Manilian Law*, the four against Catiline, and the speech for Archias ; Virgil, the *Aeneid*, Books I-VI. The examination will be designed to test the candidate's knowledge of grammatical forms and constructions, and his ability to translate into idiomatic English. (b) The translation at sight of simple Latin prose or verse. (c) The translation into Latin of a simple English passage, based upon some portion of the Cicero or Caesar prescribed.

GERMAN.—(a) The translation at sight of ordinary German prose. The passages set for translation must be rendered into correct, idiomatic English. (b) The translation into German of simple English sentences or of easy, connected prose, to test the candidate's familiarity with the grammar. Proficiency in grammar may also be tested by direct questions.

The passages set for translation into English will be suited to the proficiency of candidates who have read not less than three hundred pages (including class sight readings) from the works of at least three different authors. Suggestions as to authors or books will be given if desired.

FRENCH.—(a) The translation at sight of ordinary nineteenth century French. The passages set for translation must be rendered into correct, idiomatic English. (b) The translation into

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\*NOTE.—Latin with Greek or German or French will be required of all candidates for the degree of Bachelor of Arts. German and French will be required for admission to the course in General Science, and German or French to the courses in Engineering and Chemistry.



French of simple English sentences or of easy, connected prose, to test the candidate's familiarity with the grammar. Proficiency in grammar may also be tested by direct questions.

The passages set for translation into English will be suited to the proficiency of candidates who have read not less than four hundred pages (including class sight readings) from the works of at least three different authors. Suggestions as to authors or books will be given if desired.

Equivalents will be accepted in all the linguistic requirements.

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Students not able to pass all the examinations may be admitted with a few conditions.

Students not candidates for a degree may, at the discretion of the Faculty, be permitted to pursue special courses, for proficiency in which certificates may be granted; but this permission will be given only to students of sufficient ability and character to insure their success.

Candidates may be admitted to advanced classes if found proficient in all the preliminary studies of the course. Each case will be considered on its own merits.

Every candidate must forward, together with his application, a certificate of good moral character from his last teacher; and students from other colleges must present certificates of honorable dismissal.

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## COURSES OF INSTRUCTION.

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I. COURSE IN ARTS *leading to the degree of Bachelor of Arts.*—For admission Latin is required with either Greek or German or French, and the two languages presented must be continued for two years. At least one year each of French and German is required for graduation. All courses given in any department are open as electives during the last two years if the necessary preliminaries are complied with.

II. COURSE IN SCIENCE *leading to the degree of Bachelor of Science.* This is divided into four sections ;

*a. Course in General Science.*—German and French are required for admission, and are continued for at least two years. The elective list is practically the same as in the course in Arts.

*b. Course in Mechanical Engineering.*—Either German or French is required for admission. This course consists largely of mathematics, applied science, and work in the shop and drawing room.

*c. Course in Electricity.*—The conditions of admission are the same as in *b*, but electricity is substituted for the special mechanical work in the last two years.

*d. Chemical and Preparatory Medical Course.*—This course has the double purpose of training specialists in chemistry and of preparing students to enter medical schools. The latter object can also be obtained by proper elections in the courses in Arts and General Science.

## COURSE LEADING TO THE DEGREE OF BACHELOR OF ARTS.

In laboratory and gymnasium work two and one-half hours must be taken for each hour given below.

### FRESHMEN.

	Hours per Week.
Greek I, or German II, or French II.....	4
Latin I.....	4
English I a, I b, II.....	3
Mathematics I a, I b.....	4
History I.....	2
Biblical Literature IV.....	1
Physiology and Physical Training.....	2

## SOPHOMORES.

	Hours per Week.
Greek II, or German V, or French III.....	3
Latin II.....	3
English III.....	2
*Mathematics II a ; Mathematics II b or Biology II.....	4
Physics I and Chemistry I.....	4
Biblical Literature II or IV .....	1
Physical Training.....	1½

## JUNIORS.

Greek or Latin or Mathematics .....	3
English IV or V .....	1
Economics I.....	2
Psychology I .....	2
Biblical Literature II or III or IV.....	1
Electives (to include French I and German I if not previously studied) .....	7

## SENIORS.

English IV or V .....	1
Philosophy X a and X b.....	2
Biblical Literature II or III or IV.....	1
Electives .....	12

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\*In place of this group, students who take both Greek and Latin may elect four hours of advanced Greek or Latin or German II.

# COURSES LEADING TO THE DEGREE OF BACHELOR OF SCIENCE.

	GENERAL SCIENCE	MECHANICAL	ELECTRICAL	CHEMICAL AND PREPARATORY MEDICAL
FRESHMEN				
	Biblical Literature IV... *1	Biblical Literature IV... *1	Biblical Literature IV... *1	Biblical Literature IV... *1
	English Ia, Ib, II..... 3	English Ia, Ib, II..... 3	English Ia, Ib, II..... 3	English Ia, Ib, II..... 3
	History I..... 2	History I..... 2	History I..... 2	History I..... 2
	Mathematics Ia, Ib..... 4	Mathematics Ia, Ib..... 4	Mathematics Ia, Ib..... 4	Mathematics Ia, Ib..... 4
	German II..... 4	German II..... 4	German II..... 4	German II..... 4
	French II..... 4	or French II..... 4	or French II..... 4	or French II..... 4
		Shopwork	Shopwork	Physics I
		and Drawing..... 4	and Drawing..... 4	and Chemistry I..... 4
	Biology I and	Biology I and	Biology I and	Geology I and
	Physical Training.... 2	Physical Training.... 2	Physical Training.... 2	Physical Training.... 2
SOPHOMORES				
	Biblical Literature IV... 1	Biblical Literature IV... 1	Biblical Literature IV... 1	Biblical Literature IV... 1
	English III..... 2	English III..... 2	English III..... 2	English III..... 2
	Mathematics Ia, ½ yr.. 4	Mathematics Ia, IIb... 4	Mathematics Ia, IIb... 4	Mathematics Ia, IIb... 4
	Mathematics IIb, or Biology II ½ yr.... 4			Biology II..... 5
	Physics I	Physics I	Physics I	
	and Chemistry I..... 4	and Chemistry I..... 4	and Chemistry I..... 4	Analytical Chemistry... 4
	German V..... 3	German V	German V	German V
	French III..... 3	or French III..... 3	or French III..... 3	or French III..... 3
		Shopwork	Shopwork	
		and Drawing..... 4	and Drawing..... 4	Advanced Physics..... 4
	Physical Training..... 1½	Physical Training..... 1½	Physical Training..... 1½	Physical Training..... 1½

JUNIORS		Biblical Literature IV. 1	Biblical Literature IV. 1	Biblical Literature IV. 1	Biblical Literature IV. 1
Economics I.....	2				
Philosophy I.....	2				
English IV or V.....	1	English IV or V.....	1	English IV or V.....	1
Natural or Physical Science or Mathematics	6	Mathematics IIIa, IIIb. 3	Mathematics IIIa, IIIb. 3	German I	
		Engineering I or II.... 2	Engineering I or II.... 2	or French I.....	3
		Shopwork and Drawing..... 4	Electricity..... 4	Organic Chemistry..... 2	
		Physics II or Chemistry II..... 2	Physics II or Chemistry II..... 2	Analytical Chemistry or Biology or Physics..... 6	
Electives .....	4	Electives .....	3	Electives .....	3
SENIORS		Biblical Literature IV. 1	Biblical Literature IV. 1	Biblical Literature IV. 1	Biblical Literature IV. 1
Biblical Literature IV. 1	1	English IV or V..... 1	English IV or V..... 1	English IV or V..... 1	1
Philosophy X.....	2	Philosophy X..... 2	Philosophy X..... 2	Philosophy X..... 2	2
		Mathematics IV..... 3	Mathematics IV..... 3	German II or French II..... 4	
		Engineering I or II..... 2	Electricity..... 4		
		Shopwork and Drawing .....	4	Analytical Chemistry or Biology or Physics..... 7	
Electives.....	12	Electives .....	3	Electives ...	3

\* Figures in these columns indicate hours per week. In laboratory, gymnasium and shop work, two and one-half hours must be taken for each hour here indicated.

## GREEK.

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Greek I and II are required of Freshmen and Sophomores who present Greek for admission.

Courses III, IV, and V are elective for Seniors and Juniors.

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I. Lysias, *Select Orations*; Homer, *Odyssey*, Books I-XII. Sight reading. Greek composition. [Professor Gifford 4.]

II. Plato, *Apology*, *Crito*, and selections from *Phædo*. Sight reading; Xenophon, *Memorabilia*; Aeschylus, *Prometheus*; Euripides, *Alceste*. [Professor Gifford 3.]

III. Sophocles, *Antigone*, *Œdipus Tyrannus*; Euripides, *Medea*; Aristophanes, *Frogs*. Study of other plays in English translations. [Professor Gifford 3.]

IV. *a.* Plato, *Gorgias* with selections from other dialogues; *b.* Demosthenes, *De Corona*. [Professor Gifford 3.]

V. *a.* Aeschylus, *Agamemnon*; *b.* Pindar, *Olympian Odes*; *c.* History of Lyric Poetry with illustrative reading.

[Professor Gifford 3.]

Courses IV and V are usually given in alternate years.

### BIBLICAL LITERATURE.

II. *Greek Testament*.—Selections from the Pauline Epistles. [Professor Gifford 1.]

III. *Greek Testament*.—The Pauline Epistles. This course is continued through three years beginning with 1900-01, and makes a more critical and extended study of the Epistles than is expected in Course II. [Professor Gifford 1.]

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## LATIN.

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Latin I and II are required of Freshmen and Sophomores who present Latin for admission.

Courses III, IV, and V are elective for Seniors and Juniors.

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I. Cicero, *Fourth Verrine*; Virgil, *Bucolics* and *Fourth Georgic*; Livy, Books XXI-XXII. Translation at sight. Prose composition. [Professor Mustard 4.]

II. Tacitus, *Germania* and *Agricola*; Pliny, selected letters; Horace, *Odes*. Mackail's *Latin Literature*. Translation at sight. [Professor Mustard 3.]

III. The principal Satires of Juvenal; the principal Satires and Epistles of Horace; selections from Lucretius; Cicero, *Tusculan Disputations*, Book I. Translation at sight. [Professor Mustard 3.]

IV. Virgil, *Georgics*, Books I-II; Catullus; Terence, *Adelphoe*; Plautus, *Captivi*; Tacitus, *History*, Books I-II. Translation at sight. [Professor Mustard 3.]

V. Advanced Latin Composition. [Professor Mustard 1.]

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## ENGLISH LANGUAGE AND LITERATURE.

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English Ia, Ib, and II are required of all Freshmen; English III of all Sophomores, and English IV of all Seniors and Juniors except those electing English V. The other courses are elective for Seniors and Juniors. No student will be graduated who cannot write a creditable piece of extempore composition.

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Ia. *Freshman English*.—Johnson's *English Words*; Gummere's *Handbook of Poetics*. Exercises and discussions on rhetoric. First half year. [Dr. Hancock 2.]

Ib. *American Literature*.—A brief historical and critical survey of American letters. Wendell's *Literary History of America*. Collateral readings. Weekly themes. Second half year. [Dr. Hancock 2.]

II. *Freshman English Literature*.—Lectures on the foundations

of English literature, and on its development down to the time of Shakspeare. Readings and reports. [Professor Gummere 1.]

III. *Sophomore English*.—Lectures on rhetoric and the masters of English style. Readings from selected authors. Weekly themes. Extemporaneous speeches. [Dr. Hancock 2.]

IV. *Senior and Junior Essays*.—Five essays during the year on a selected subject. These are read and criticized by the instructor in conference with the student. [Dr. Hancock 1.]

V. *Advanced Themes*.—Lectures on the principles of literary art and method. Constant practice in the various forms of composition. [Dr. Hancock 1.]

VI. *Forensics*.—Advanced work in extemporaneous speaking. Occasional addresses and debates. Readings in the British and the American orators. [Dr. Hancock 1.]

VII. *Early English*.—Bright's *Anglo-Saxon Reader*. *Elene*. *Béowulf*. [Professor Gummere 2.]

VIII. *Middle English*.—English literature in the thirteenth and the fourteenth century. Chaucer's *Canterbury Tales*. English and Scottish ballads. Lectures and readings. Omitted 1900-1901. [Professor Gummere 2.]

IX. *Elizabethan Literature*.—The plays of Shakspeare. Lectures and readings. [Professor Gummere 2.]

X. *English Literature of the Seventeenth Century*.—Milton. Lectures and readings. Omitted 1900-1901.

[Professor Gummere 1.]

XI. *English Literature of the Eighteenth Century*.—Lectures on the principal writers of this period. First half year. The Augustans: Steele, Addison, Defoe, Swift, Pope, Johnson, Goldsmith, Burke and the novelists. Second half year. The Beginnings of Romanticism: Thomson, Young, Gray, Collins, Chatterton, Ossian, Cowper. Collateral readings. [Dr. Hancock 2.]

XII. *English Literature of the Nineteenth Century*.—Lectures on the poets of this period. First half year. The Romantic Poets: Burns, Coleridge, Wordsworth, Byron, Shelley, Keats. Second half year. The Victorian Poets: Arnold, Clough, Tennyson, Browning, Swinburne. Collateral readings. Omitted 1900-1901. [Dr. Hancock 2.]



## GERMAN.

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German I is required in the Junior year of all candidates for the degree of Bachelor of Arts who have not presented German for admission. German II is required of all Freshmen, and German V of all Sophomores who present German for admission.

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I. *Beginner's German*.—German grammar and reading exercises. Thomas's *German Grammar*; Guerber's *Märchen und Erzählungen*; Heyse's *L'Arrabbiata*; Sturm's *Immensee*; Hauff's *Karavane*. [C. H. Carter 3.]

II. *Second Year German*.—A course in rapid reading of representative German writers. Baumbach's *Im Zwielicht*; Lessing's *Minna von Barnhelm*; Schiller's *Wilhelm Tell*; Goethe's *Hermann und Dorothea*, *Götz von Berlichingen* and *Sesenheim*; Heine's *Buch der Leiden*; Bürger's *Lenore*. Practice in sight-reading. In addition the members will read outside of the class Hauff's *Das kalte Herz*, Sudermann's *Frau Sorge*, von Scheffel's *Trompeter von Säckingen*, Fouque's *Undine*. [Dr. Hancock 4.]

III.—*German Prose Composition*. [Professor Gummere 2.]

IV. *Scientific German*.—Omitted in 1900-1901.

[Professor Gummere 2.]

V. *German Literature*.—Goethe's *Faust* and *Iphigenie*; Schiller's *Wallenstein*. Selections from classic authors. Readings.

[Professor Gummere 3.]

VI. *Middle High German*.—Paul's *Mittelhochdeutsche Grammatik*; *Das Nibelungenlied*; poems of Walther von der Vogelweide.

[Professor Gummere 2.]

## FRENCH.

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French I is required in the Junior year of all candidates for the degree of Bachelor of Arts who have not presented French

for admission. French II is required of all Freshmen and French III of all Sophomores who present French for admission.

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I. *Beginner's French*.—The object of this course is to give the student a knowledge of elementary grammar and a fair reading knowledge of the language. The following books will be used: Grandgent, *The Essentials of French Grammar*; Merimée, *Colomba*; Labiche, *le Voyage de Monsieur Perrichon*; Sand, *la Mare au diable*; Coppée, *le Luthier de Crémone*. [Professor Ladd 3.]

II. *Second Year French*.—The object of this course is to give the student a more exact knowledge of the language, and also to make him acquainted with a few specimens of the works of some of the standard French writers. Special attention will be given to composition and to sight-reading. The following books will be used: Edgren, *A Compendious French Grammar*; Marcou, *French Review Exercises for Advanced Pupils*; Daudet, *Contes*; Sandeau, *Mlle. de la Seiglière*; Dumas, *les trois Mousquetaires*; Hugo, *Hernani*; Super, *Readings from French History*; Corneille, *le Cid*; Racine, *Athalie*; Molière, *l'Avare*; La Fontaine, *Fables*. [Professor Ladd 4.]

III. The object of this course is to afford the student an opportunity to become acquainted with a large number of universally recognized literary masterpieces that France has produced since the sixteenth century, and also to form some idea of the general development of French literature from its beginnings to the present day. A large amount of sight-reading will be done. The following books will be used: Corneille, *Polyeucte*; Racine, *Phèdre*; Molière, *les Précieuses ridicules*, *le Misanthrope*, *le Tartufe*; Bossuet, *Oraison funèbre de Henriette d'Angletorre*; Regnard, *le Joueur*; Voltaire, *Zaïre*; Marivaux, *le Jeu de l'amour et du hasard*; Beaumarchais, *le Barbier de Séville*; Hugo, *Poésies*, *les Misérables*; Lamartine, *Poésies*; A. de Musset, *Poésies*; Balzac, *Eugénie Grandet*; Daudet, *Tartarin de Tarascon*; Augier, *le Gendre de Monsieur Poirier*. In connection with the above, the students will be required to read Petit de Julleville's *Leçons de littérature française*, or Duval's *Histoire de la littérature française*. [Professor Ladd 3.]

MATHEMATICS.

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The courses in mathematics are arranged as far as possible to suit the needs of those students who (1) take them as part of their required Freshman and Sophomore work, and do not intend to proceed further in mathematics, (2) elect them as a minor subject and take either physics, engineering, or astronomy as a major subject, (3) take them as part of the required work of the Engineering course, or (4) elect them as a major subject.

Courses I, II, III, IV are given every year and XIII in alternate years. The electives to be offered in any one year will be such as the needs of the department may require. Courses on certain subjects other than those given below may be arranged by consultation either for undergraduates or graduates.

In the Library will be found some of the principal journals, treatises, and collected works. There are also libraries near by where other works and journals may be consulted. A collection of mathematical models is in one of the lecture rooms.

Courses Ia. and Ib. are required of all Freshmen. Courses IIa. and IIb. are Sophomore courses, and are required of all students with the following exceptions:

1. A student taking both Greek and Latin may elect four hours of additional Greek or Latin, or German II in place of them.
  2. A student may elect five hours in biology in place of IIb.
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Ia. *Algebra*, including the progressions, permutations and combinations, theory of quadratic equations, the binomial theorem, logarithms and the exponential, convergence and divergence of series, undetermined coefficients, partial fractions.

Hall & Knight, *Higher Algebra*; or Fine, *College Algebra*. Half-year. [Dr. Reid 4.]

Ib. *Plane Trigonometry*, including the solution of triangles. Lyman & Goddard, *Plane Trigonometry*. *Solid Geometry*, and the geometry of the curves of the second degree. Cockshott & Wal-

ters, *Geometrical Treatise on Conics. Elements of the Theory of Equations.* Half-year. [Dr. Reid 4.]

IIa. *Plane Analytical Geometry*, including that of the curves of the second degree. Half-year. [Professor Brown 4.]

IIb. *Differential Calculus.* Half-year. [Professor Brown 4.]

IIIa. *Integral Calculus.* Murray, *Integral Calculus.* Half-year. [Dr. Reid 3.]

IIIb. *Integral Calculus continued. Analytical Geometry of Three Dimensions*, the plane, straight line and quadric surface. Half-year. [Dr. Reid 3.]

Courses IIIa, IIIb, are required of Engineering students in their Junior year, and should in general be taken by students electing mathematics in the Junior year.

IV. *Introduction to Analytical Mechanics*; including the earlier parts of dynamics and statics, the motion of a particle under any forces, and the principal theorems in attractions and potential.

[Professor Brown 3.]

This course is required of Engineering students in their Senior year.

V. *Introduction to Modern Analysis.* Among the topics discussed will be irrational number, limits, continuity, infinite series, differentiability and integrability of functions. Half-year.

[Dr. Reid 3.]

This course is suitable for students electing IIIa, and serves as an introduction to VI, VII, X.

VI. *Introduction to the Theory of Functions.*

[Professor Brown or Dr. Reid 3.]

Prerequisite, IIIa.

VII. *Differential Equations.* The subject will be treated on lines similar to those of Forsyth's text-book. Half-year.

[Professor Brown 2.]

Prerequisite, IIIa.

VIII. *Theory of Equations.* Burnside & Panton, *Theory of Equations.* Half-year. [Dr. Reid 2.]

IX. *Advanced Algebra.* The following topics will in general be discussed: rational functions, determinants, symmetric functions, invariants, groups, and the Galois theory of algebraic equations. Weber, *Algebra.* Half-year. [Dr. Reid 3.]

X. *Analytical Geometry of Three Dimensions*, theory of surfaces and curves in space. C. Smith, *Solid Geometry*. Half-year. [Dr. Reid 2.]

XI. *Fourier series and Spherical harmonics*, including some of the simpler applications to physical problems. Half-year. [Professor Brown 3.]

XII. *Elements of the Theory of Algebraic Numbers*. [Dr. Reid 2.]

XIII. *Theoretical Dynamics*. Half-year. [Professor Brown 3.]  
Prerequisites, IIIa, IIIb, IV.

XIV. *Descriptive Geometry*. Half-year. [Dr. Reid 2.]

This course is required of Engineering students and is given in the first half of alternate years. [Not given in 1901-1902.]

## HISTORY.

History I is required of all Freshmen. The other courses are elective for Seniors and Juniors.

I. *History of England*.—A general survey of the history of England, dealing briefly with the period preceding 1485. Emphasis is laid upon the political and constitutional phases of development. Brief written tests are given weekly on lectures and reading. [D. C. Barrett 2.]

II. *American History*.—Colonial history to 1783. [Professor Thomas 3.]

III. *American History*.—Constitutional and political history of the United States from 1783 to 1870. [Professor Thomas 3.]  
Courses II and III are given in alternate years.

They are intended to show historical development, the relation of cause and effect, and to awaken in the students a conscious-

ness of historic proportion, and a sound critical sense. The instruction consists chiefly of lectures, with required private reading, consultation of authorities, frequent reports in the lecture room on special reading, and occasional essays on assigned topics. The College library is well supplied with reference books and historical literature.

IV. *Medieval History*.—This course opens with a survey of the civilization of Europe at the beginning of the Middle Ages, and is followed by a description of the principal currents that flowed through that period—the decline of the Roman Empire; the Gothic invasions; the rise and fall of the Arabian civilization; the rise and decline of Charlemagne's empire; Feudalism; the Crusades; the conflict between the Empire and the Papacy.

[Dr. Bolles 2.]

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## POLITICAL SCIENCE.

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Economics I is required of all Juniors in the Arts and General Science courses. The other courses in Political Science are elective for Seniors and Juniors.

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### A. ECONOMICS.

I. *Outlines of Economics*.—A general introduction to the subject. The greater part of the year is taken up with a study of the principles of the science based upon Bullock's *Introduction to the Study of Economics*, portions of Hadley's *Economics*, and other general books. The latter part of the course is devoted to applications of economic principles. [D. C. Barrett 2.]

II. *Money*.—The ways and means of making payments and the effects produced by them upon prices, trade, and industry. A

study is made of the principles of money; bank-credit and its uses in the form of deposits and different systems of bank-note issues; some phases of the bimetallic controversy; paper money and the problems connected with the suspension of specie payment in the United States from 1861 to 1879, and commercial crises. Conditions in the United States receive special attention. This course can be taken profitably with Economics V. Half-year.

[D. C. Barrett 3.]

III. *Railways*.—The history and problems of transportation with especial reference to railways in the United States. The first part traces the history of transportation facilities—the canal systems, the beginnings of the railway and the development of the large railway systems. The second part deals with the monopolistic and other economic and social influences resulting from the growth of railways, the history and theory of railway rates, and the various attempts to regulate and control these corporations by the federal and state governments. Half-year.

[D. C. Barrett 3.]

IV. *Commercial Law*.—This course includes an exposition of the leading principles of the law relating to contracts; who can make them; what assent is needful; what consideration is required; how interpreted and enforced. Also the law relating to particular subjects: sales, carriage of goods and passengers, agency, partnership, negotiable paper, checks, guaranty, surety, payments, interest, shipping, insurance, deeds and loans, and corporations. Half-year.

[Dr. Bolles 2.]

V. *Banking*.—This course describes the practice and most important legal principles of banking; the methods of raising the capital; modes of organizing national and state banks, savings banks, trust and finance companies; the resources of a bank, and the modes of lending them; the duties of its directors, president, cashier, tellers, bookkeepers and other officials; public and private examinations and audits. The same method is pursued with respect to national and state banks, trusts and finance companies. This course can be profitably taken with Economics II. Half-year.

[Dr. Bolles 2.]

## B. GOVERNMENT.

I. *Modern Government*.—In the first half of this course the actual working of the American system of government is considered, and selected cases of constitutional law are discussed to illustrate the development of the constitution. In the second half the governments of England and continental countries are examined. [D. C. Barrett 3.]

II. *Expenditure and Revenue*.—This course is a description of the mode of expending and collecting the revenues of the national and state governments. The functions of government are briefly set forth and expenditures are classified. The mode of making expenditures by the different departments of the national government are then given, followed by a description of the bills appropriating money. The different kinds of taxes are next considered, the principles on which the laws are based, and the modes of administering them. The expenditures and revenues of the state are treated in the same manner. [Dr. Bolles 1.]

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## BIBLICAL LITERATURE AND PHILOSOPHY.

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## A. BIBLICAL LITERATURE.

I. *Elementary Hebrew*.—This course will not be offered until 1902-3. [Professor Ladd 2.]

II. *Greek Testament*.—Selections from the Pauline Epistles. [Professor Gifford 1.]

III. *Greek Testament*.—The Pauline Epistles. This course is continued through three years beginning with 1900-01, and covers a more critical and extended study of the epistles than is expected in Course II. [Professor Gifford 1.]

IV. *Biblical Literature in English*.—This course extends



through four years and is required of all Freshmen, and of those members of the Sophomore, Junior and Senior classes who have not studied Greek.

The course will consist of a survey of the history and literature of the Bible in English from the beginnings of Hebrew history down to the close of the Apostolic age. The history and literature will be brought, as far as possible, into chronological connection. As introductory to the entire course, a part of the first year will be devoted to a consideration of such subjects as the Canon of the Old and New Testaments, the Translations of the Bible, and the History and Method of the Modern Study of the Bible. [Professor Ladd 1.]

V. *The Literary Study of the English Bible.*

[Professor Gummere 2.]

B. PHILOSOPHY.

VI. *Psychology*.—A course in general psychology. James' *Psychology* (briefer course) will be used as a text book, and will be supplemented by lectures. A short series of lectures will also be given on logic. [Dr. Jones 2.]

VII. *Interpretation of the New Testament*.—This course will be devoted to a search for the original message of Christianity as expressed by the writers of the Gospels and Epistles. It will consist of lectures, reference reading, and theses. The work will all be done in English. [Dr. Jones 2.]

VIII. *Development of Christian Thought*.—An examination of the great types of religious thought which have prevailed at different epochs in the history of the Church, such as the Alexandrian conception of Christianity, the Latin, the Calvinistic, and the Quaker conception. Lectures, readings, and theses. [Dr. Jones 2.]

IX. *History of Philosophy*.—The chief systems of philosophy from the earliest period down to modern times will be studied. Special stress will be put upon the development of theories of

idealism. The text-books required will be Weber's *History of Philosophy*, and Royce's *Spirit of Modern Philosophy*, with other reference reading. Lectures, discussions, and theses.

[Dr. Jones 3.]

Xa. *Ethics*.—The important ethical theories will be studied historically with a view of discovering a satisfactory criterion or basis of moral action. Each student will be expected to make an exposition of some one representative system. The text-book will be Thilly's *Introduction to the Study of Ethics*. Lectures and recitations. Half-year.

[Dr. Jones 2.]

Xb. *Ethics*.—This course will consider current problems of practical ethics and sociology, such as politics, temperance, war, charity and prison administration, the labor question, etc., on their moral side. Half-year.

[President Sharpless 2.]

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## ASTRONOMY.

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The Haverford observatory affords students the means of becoming familiar with the use of astronomical instruments, and of acquiring, from actual observation, a practical acquaintance with astronomy.

It contains two equatorial telescopes, one, by Clark, having an object-glass 10 inches in diameter, and one with an object-glass of  $8\frac{1}{4}$  inches, with filar micrometer and eye pieces; a polarizing eye-piece; a Newtonian reflector, with a silver-on-glass speculum of  $8\frac{1}{4}$  inches diameter; a prism spectroscope; a meridian transit circle having a telescope of  $3\frac{3}{4}$  inches aperture, with a circle at each end of the axis 26 inches in diameter; a zenith instrument of  $1\frac{3}{4}$  inches aperture, with a micrometer; two sidereal clocks, one with mercurial compensation, the other used to connect with a Bond's magnetic chronograph.

The latitude of the observatory is  $40^{\circ} 0' 40''$  N. ; its longitude, 6 minutes 59.4 seconds east from Washington.

A special course in astronomy is offered to amateurs and teachers. The requisites for the course and the fees charged will depend on the work which the applicant desires.

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|---------------------------|------------|--------------------|
| I. Descriptive Astronomy. | Half-year. | [W. H. Collins 3.] |
| II. Practical Astronomy.  |            | [W. H. Collins 2.] |
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## BIOLOGY.

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The biological laboratory is a large, well-lighted room, which is amply equipped with microscopes, reagents, and all other necessary apparatus and appliances. It also contains about two hundred biological works and zoological, anatomical, and botanical charts.

The courses of the department are arranged so that students intending to study medicine may have every facility for preparation. Graduates who have completed the Preparatory Medical Course are admitted without examination to all medical schools.

Course I is required of all Freshmen through the first quarter. Course II is required of all Sophomores in the Department of Arts, not taking Mathematics II*b* or additional linguistic study.

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| I. <i>Elementary Physiology and Hygiene.</i> | First quarter. | [Dr. Babbitt 2.] |
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II. *Elementary Biology.*—The lectures of this course are devoted to a discussion of the fundamental principles of the structure and life-processes of animals and plants, and also to some of the more important questions relating to their origin and evolution. The laboratory periods are devoted to the practical study and dissection of typical representatives of some of the greater groups of animals and plants. Many field excursions are

made in order to study animals and plants in their natural environment. Half-year. [Professor Pratt 5.]

Courses III to VIII, inclusive, are elective, but must, with the exception of course IX, be preceded by course II.

III. *Comparative Anatomy of Vertebrates*.—One lecture and two laboratory periods a week. The laboratory work of this course includes the dissection and study of a cartilagenous and a bony fish, an amphibian, a reptile, and a mammal.

[Professor Pratt 3.]

IV. *Morphology of Invertebrates*.—This course is intended for those who may wish to make a more extended study of invertebrates than was possible in Course II. [Prof. Pratt 1 or more.]

V. *Histology of Vertebrates*.—One lecture and two laboratory periods a week during the first half year. The laboratory work of this course includes a microscopical study of vertebrate tissues. The student also learns the methods of microscopical technique, the preparation of the more important reagents, the use of the microtome, etc., and he prepares or obtains about one hundred stained and mounted tissues. Half-year.

[Professor Pratt 3.]

VI. *Embryology of Vertebrates*.—One lecture and two laboratory periods a week during the second half year. The laboratory work of this course is devoted to the study of the embryology of the chick and the frog. Half-year. [Professor Pratt 3.]

Course III alternates with courses V and VI.

VII. *General Botany*.—One lecture and one laboratory period a week. The laboratory work of this course consists of the dissection and structural study of typical representatives of the principal groups of plants.

[Professor Pratt 2.]

VIII. *Evolution and Heredity*.

[Professor Pratt 1.]

Courses VII and VIII are given in alternate years.

IX. *Human Anatomy*.—The work of the first year student in medicine on anatomical lines is thoroughly covered in this and the succeeding course. The department is equipped with a skeleton, dissectible manikin, enlarged models of the eye, ear,

throat and heart, and numerous charts to aid in practical work. A complete set of individual bones, including a disarticulated skull, affords opportunity for the study of osteology. The course is supplemented by attendance upon medical clinics and occasional visits to the anatomical museums of the city.

[Dr. Babbitt 2.]

X. *Human Anatomy*.—A thorough study is made of the anatomy of the thorax and abdomen, with special study of the brain and spinal cord, and, as far as time permits, the eye, ear and throat. In this, as in the previous course, charts are prepared by the student.

[Dr. Babbitt 2.]

Course IX alternates with course X.

XI. *Advanced Physiology*.—While primarily intended to fill the requirements of the Preparatory Medical Course, this course is made general and is open to all Juniors and Seniors. It consists of one hour of recitation and one laboratory period a week. Suitable apparatus is provided for practical and experimental work upon muscle and nerve preparations; examination and tests of blood and secretions; production of artificial digestion; functional study of the heart, general circulation, special senses, etc.

[Dr. Babbitt 2.]

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## CHEMISTRY.

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The large chemical laboratory affords opportunity for elementary or advanced special work, with ample facilities for its prosecution. The professor and his assistant are in constant attendance. The laboratory work comprises elementary experiments in general chemistry; the preparation of a number of pure compounds; qualitative and quantitative analysis; and experimental work illustrating chemical laws and theories. Chemistry

I is required of all Freshmen in the Chemical and Preparatory Medical courses, and of Sophomores in all the other courses; Chemistry II or Physics II is required of Mechanical and Electrical Juniors.

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I. *Elementary General Chemistry*.—In this course students have three lectures or recitations and two and one-half hours of laboratory work a week. The preparation, properties and uses of the more important elements and inorganic compounds are discussed in the lectures, and are illustrated by experiments. In the laboratory the time is given mainly to the preparation and study of the non-metallic elements and a few of their compounds. Half-year. [Professor Hall 4.]

II. *Qualitative Analysis*.—In this course the exercises are mainly practical, but there is, each week, at least one lecture or examination. Although the instruction is devoted chiefly to the methods of qualitative analysis, it is expected that the student will increase materially his knowledge of general chemistry by following this course. [Professor Hall 2 or more.]

III. *Quantitative Analysis*.—In this course the simpler gravimetric and volumetric methods of analysis are studied. The calibration of flasks and burettes is also included. [Professor Hall 2 or more.]

IV. *Organic Chemistry*.—This course consists of one lecture and one and one-half hours of laboratory work each week throughout the year. It will be found useful not only to those intending to become chemists, but also to students of biology and medicine. [Professor Hall 2.]

V. *Advanced Quantitative Analysis*.—This course is a continuation of course III, but includes the analysis of silicates and other complex compounds, the examination of water, milk, butter, iron, steel, etc. [Professor Hall 2 or more.]

PHYSICS.

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Physics I is required of all Freshmen in the Chemical and Preparatory Medical Course, and of Sophomores in all the other courses. It includes three lectures and two and one-half hours of laboratory work each week during half the year. Physics II or Chemistry II is required of Mechanical and Electrical Juniors.

The Department of Physics occupies five rooms in the west end of Founder's Hall, well arranged both for laboratory work and for lectures. The apparatus for lecture demonstrations has been carefully chosen to illustrate the principal phenomena dealt with, and the laboratory is furnished with a large number of excellent standard forms of apparatus, among which may be mentioned a dividing engine and a comparator, both from the Geneva Society works; a Rowland plane grating spectroscope, and an optical bench for diffraction and interference experiments. The department is also well equipped with the usual forms of elementary apparatus. The electrical apparatus includes several dynamos and motors, Weston and other ammeters and voltmeters, a good variety of Thomson and D'Arsonval galvanometers, a fine Wheatstone bridge made by Eliot Brothers, together with numerous other bridges, condensers, standard units, etc. The laboratory is supplied throughout with both gas and electric light, and electric currents are obtained either from an efficient storage battery or from a dynamo.

The courses to be given in 1900-1901 are given below; additional courses may, however, be announced later.

I. *Elementary Physics*.—The subjects taken up in this course are mechanics, sound, heat, light, electricity and magnetism. *The Elements of Physics* by Prof. H. Crew is recommended as a text book. The lectures are illustrated throughout by experiments, and the laboratory work is arranged to supplement the class work. The experiments performed by the student are all quantitative in character, accurate measurement being taught in all the subjects treated. No previous knowledge of physics is required. Half-year. [Dr. Saunders 4.]

II. *Advanced General Course*.—This course presupposes Physics I, and covers the subject of heat, (including thermometry, thermodynamics, and surface tension) and light, (including a special course on spectroscopy.) [Dr. Saunders 2 or more.]

III. *Theory of Electricity*.—The subject of electricity is studied in this course from a physical standpoint. The elementary mathematical theory is given, and the laboratory work supplements the lectures, and involves the accurate measurement of electrical quantities. While a knowledge of the differential and integral calculus is not required for this course, it will be found convenient in simplifying the mathematical theory.

[Dr. Saunders 2 or more.]

IV. *Electricity*.—Elementary instruction, by text-book and lectures, in electrical quantities and units; the principles of electrical measuring instruments, dynamos, motors, and transformers. The course includes experiments with dynamos and motors, such as making characteristic curves, the measurement of efficiency, etc. The practical phases of electricity are considered.

[Professor Edwards 2.]

V. *Electricity*.—This course is intended to follow Course IV. It begins with laboratory experiments by the student, involving the use of refined measuring instruments, and the absolute measurement of electrical quantities. It embraces also, in more detail than Course IV, the study of the design, construction and operation of dynamos, direct and alternating; the theory of the transformer, the transmission of electrical energy, and the modern applications of the electric current. The practical phases of electrical engineering, such as the wiring of buildings, the installation of electrical machinery, etc., are taken up as far as time permits.

[Professor Edwards 2.]

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## GEOLOGY.

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I. *Elementary Geology*.—Recitations and field work.  
Half-year.

[Professor Pratt 3.]

This course is given the first half year and is followed by Astronomy I the second half.



ENGINEERING.

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The Engineering Department occupies a commodious stone building, three stories high, erected during the summer of 1896. The entire equipment is new and of the best quality. The wood-working room affords accommodation for fourteen students at one time. The benches are provided with quick action vises and a complete set of carpenter's tools for each student. This shop contains a 36" band saw and two wood lathes. The iron-working room contains a 24" x 12' Blaisdell engine-lathe and three smaller engine-lathes; a 24" x 24" x 6' planer; a Becker-Brainard universal milling machine; a Gould & Eberhardt 16" shaper; two drill-presses; several vises and complete sets of machinists' tools for bench work. Three steam engines, two of which are tandem compounds directly coupled to 60 K.W. dynamos, together with indicators and electrical measuring instruments, afford good opportunity for engine and dynamo testing. The third story of the building is devoted to drawing, and is a commodious and well-lighted room.

The instruction begins with a series of graded exercises, which teach accuracy in the use of tools, and illustrate the principles of machine construction. This is followed by practice in the construction of parts of machinery, and the building of complete machines.

The students, under the care of the professor, are taken from time to time to visit machine shops and engineering constructions in Philadelphia and vicinity.

Students in Mechanical Engineering are required to spend at least five hours a week for four years in the shop, and students in Electrical Engineering five hours a week for two years. In addition, the following technical mechanical courses are given. For the corresponding electrical course see under the head of Physics.

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I. First Half Year: a study of the construction of modern steam engines, boilers, condensers, pumps, etc., followed by the

thermo-dynamic principles involved in the operation of the steam engine. [Professor Edwards 2.]

Second Half Year: a study of the materials employed in engineering constructions, including the manufacture and properties of iron in all its commercial forms of cast iron, steel and wrought iron; the making of alloys, the strength, elasticity and ductility of metals; the strength of timbers, shafting, girders, trusses, etc. [Professor Edwards 2.]

II. First Half Year: Descriptive Geometry. [Mathematics XIV.] [Dr. Reid 2.]

Second Half Year: a study of the mechanical movements employed in machinery; various methods of transmitting and transforming motion; a detailed study of the teeth of wheels. This course includes a series of problems in invention to be solved by the student. [Professor Edwards 2.]

III. *Practical Mechanics*.—This course extends through four years for engineering students. It begins with simple exercises in wood-working, embracing sawing and planing, and progressing through graded exercises in joinery of all kinds, turning and pattern-making. One year is usually spent in this department, unless the student has previously had practice in wood-working.

The iron-working is begun regularly at the beginning of the Sophomore year. Bench work in filing, chipping and scraping occupies about one year, and a considerable degree of skill is required in this work, as it is the most valuable part of the course in training hand and eye for accurate mechanical work.

The remaining two years are devoted to the use of the various machine tools in executing a series of graded exercises, and finally in the construction of a complete machine, such as a lathe or engine.

[Professor Edwards, with skilled assistants, 2 or more]

IV. *Mechanical Drawing and Machine Design*.—A course beginning with the elementary projection of solids and complicated intersections, and embracing the design of plain and bevel gear wheels (cycloidal and involute), worm gearing, marine propellers,

the Stephenson link motion for reversible steam engines, etc. The course concludes with the design of a complete steam engine and the detail drawings of its working parts. Students in Mechanical Engineering are required to spend at least five hours per week for four years in the drawing room, and students in Electrical Engineering five hours per week for two years.

[O. M. Chase 2 or more.]

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## PHYSICAL TRAINING.

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The new Gymnasium gives Haverford opportunities of physical training not enjoyed under the old conditions.

This new building contains a spacious main floor, sixty by ninety feet, abundantly equipped with the most improved American and Swedish gymnastic appliances, and circled by an inclined running track, five feet in width.

Adjoining the main floor are offices for the use of the physical director in examination and physical measurement. These rooms will be further utilized for special work by students taking advanced courses in anatomy and hygiene, preparatory to medicine, and by those electing normal courses in physical training. Opposite the entrance, adjoining the main hall, is located a large and comfortable students' reading room. Above these are a trophy room and apartments for the use of alumni.

In the basement is a gymnasium dressing room with a number of well-ventilated lockers, toilet and washing rooms, and a swimming pool twenty-three by thirty feet.

There is a special dressing room for the use of the faculty and visiting athletic teams, and the remainder of the basement affords sufficient space for the addition of a bowling alley or other games.

All students are given a thorough physical examination upon entrance, and another at the end of the Sophomore year, and they

must pass a physical eligibility standard before representing the College upon foot-ball, gymnastic or athletic teams.

The work of the Physical Department commences with a course of lectures upon anatomy, physiology and hygiene, given to the Freshman class during the first quarter of the College year. This is followed by systematic gymnastic drill during the two succeeding quarters, four periods a week.

A similar course of three periods a week is required during Sophomore year, and elective courses are open to Seniors and Juniors.

The student is given an option of three courses.

I. A course in modified Swedish educational gymnastics.

II. A course in general light and heavy gymnastic work similar to the work given in our large universities.

III. Regular practice with the candidates for the College gymnastic team for entrance to which gymnastic ability and physical qualifications are requisite.

For additional courses in anatomy and physiology see under the head of biology.

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## THE LIBRARY.

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The College Library now contains over thirty-seven thousand volumes, besides numerous pamphlets. It is arranged with the object of making it especially useful as a library of reference. Within the past two years the greater part of the collection has been reclassified and recatalogued according to the expansive system, and new cards have been written and arranged on the dictionary plan. The students have free access to the shelves, and the librarian and his assistants are, at all times ready to give aid in the use of the library.

About \$1800 are expended yearly for the purchase of books and periodicals. The library is a regular depository of the United States Government, and several hundred volumes of publications are annually received. Among these are many useful and valuable works.

The following literary and scientific periodicals are taken :

Academy.	Acta Mathematica.
Advocate of Peace.	American Friend.
American Cricketer.	American Journal of Archæology.
American Historical Review.	American Journal of Philology.
American Journal of Mathematics.	American Journal of Science.
American Journal of Theology.	American Naturalist.
American Machinist.	Anglia Beiblatt.
Anglia.	Annals of Mathematics.
Annalen der Physik.	Archiv für lateinische Lexicographie.
Annals of American Academy.	Astronomical Journal.
Astronomische Nachrichten.	Athenæum.
Astrophysical Journal.	Australian Friend.
Atlaitic Monthly.	Beiblätter für den Annalen der Physik.
Banner and Herald.	Book Reviews.
Beiträge zur geschichte der deut-	British Friend.
schen Sprache und Litteratur.	Bulletin of Bibliography.
Bulletin Astronomique.	Bulletin des Sciences Mathématiques.
Bulletin of the Department of Labor.	Century Magazine.
Cassier's Magazine.	Classical Review.
Chicago Banker.	Columbia University Quarterly.
Columbia Studies in History, etc.	Commercial and Financial Chronicle.
Consular Reports.	Contemporary Review.
Comptes Rendus de l'Académie des	Cricket.
Sciences.	Critic.
Dial.	Cumulative Index.
Edinburgh Review.	Economist. (London.)
Education.	Educational Review.
Electrical World.	Engineering Mechanics.
Electrician.	English Catalogue of Books.
Englische Studien.	Forest Leaves.
Expositor.	Forum.
Fortschritte der Mathematik.	Friend (Philadelphia).
Friend (London).	Friends' Quarterly Examiner.
Friends' Intelligencer and Journal.	Harper's Weekly.
Friends' Missionary Advocate.	Harvard Graduates' Magazine.
Harper's Magazine.	Herald of Peace.
Hartford Seminary Record.	Independent.

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|---|---|
| Johns Hopkins University Studies<br>in History, etc.    | Johns Hopkins University Circulars.                     |
| Journal de Mathématiques.                               | Journal of the Chemical Society.                        |
| Journal of the Franklin Institute.                      | Journal of the American Chemical<br>Society.            |
| Journal für die reine u. angewandte<br>Mathematik.      | Journal of Morphology.                                  |
| Journal of the Society of Chemical<br>Industry.         | Journal of Political Economy.                           |
| Literary News.  | Library Journal.  |
| Littell's Living Age.                                   | Literary Era.   |
| Mathematische Annalen.                                  | Literaturblatt für germ. u. rom. Phi-<br>lologie.       |
| Monthly Notices of Royal Astrono-<br>mical Society.     | Meehan's Monthly.                                       |
| Nation.   | Modern Language Notes.                                  |
| Nineteenth Century.                                     | Mind.   |
| Official Gazette of the U. S. Patent<br>Office.         | Nature.   |
| Philosophical Magazine.                                 | North American Review.                                  |
| Popular Science Monthly.                                | Pedagogical Magazine.                                   |
| Present Day Papers.                                     | Pennsylvania Magazine.                                  |
| Proceedings of the Academy of<br>Natural Science.       | Philosophical Review.                                   |
| Proceedings of American Philoso-<br>phical Society.     | Political Science Quarterly.                            |
| Psychological Review.                                   | Princeton University Bulletin.                          |
| Publishers' Weekly.                                     | Proceedings of the Society for Psy-<br>chical Research. |
| Quarterly Journal of Economics.                         | Publications of American Economic<br>Association.       |
| Quarterly Review.                                       | Publications of the Modern Language<br>Association.     |
| Rheinisches Museum für Philologie.<br>Science.          | Quarterly Journal of Mathematics.                       |
| Scientific American.                                    | Review of Reviews (Amer.).                              |
| Scribner's Magazine.                                    | Romania.  |
| Southern Workman.                                       | Science Abstracts.                                      |
| Transactions of the American Mathe-<br>matical Society. | Scientific American Supplement.                         |
| Wochenschrift für klassische Phi-<br>lologie.           | Sound Currency.   |
| Zoologisches Centralblatt.                              | Southern Workman.                                       |
|   | Spectator.  |
|   | University Record (Chicago Univ.).                      |
|   | War or Brotherhood.                                     |
|   | Yale Alumni Weekly.                                     |
|   | Yale University Bulletin.                               |
|   | Zeitschrift für Physikalische Chemie.                   |

The Library is open from 8.30 A. M. to 6 P. M. While designed especially for the use of the officers and students, others have the privilege of consulting, and, under certain restrictions, of drawing books.

The Library is under the charge of Allen C. Thomas, Librarian.

## PUBLIC LECTURES 1900-1901.

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### HAVERFORD LIBRARY LECTURES.

CANON RAWNSLEY, of Keswick, England.

“How I saw Pharaoh in the Flesh.” Illustrated.

PROFESSOR RICHARD G. MOULTON, PH. D., of the University of Chicago.

“The Literary Study of the Bible as distinct from Theology or Criticism.”

J. RENDEL HARRIS, M. A., Litt. D., Reader in Paleography in the University of Cambridge, England.

“The So-called Logia or Sayings of Jesus.”

“The Literary Environment of Our Lord and His Apostles.”  
Three Lectures.

### LECTURES ON PUBLIC AFFAIRS.

S. EDGAR NICHOLSON, Author of recent Indiana temperance legislation.

“The Anti-Saloon League.”

DR. J. T. ROTHROCK, Commissioner of Forestry of Pennsylvania.

“Importance of Forestry to our Country.”

DR. FREDERICK W. SPEIRS, Agent of the Department of Social Economy of the U. S. Commission to the Paris Exposition.

“Some Recent Developments in Municipal Government.”

Illustrated.

DR. SAMUEL McCUNE LINDSAY, Assistant Professor of Sociology, University of Pennsylvania.

“The Industrial Outlook for the American Negro.”

HON. THOMAS S. BUTLER, Member of the House of Representatives from the Sixth Congressional District, Pa.

“The House of Representatives—Its Methods and Character.”

PENDLETON KING, A. M. (Haverford '69), Chief of the Bureau of Indexes and Archives, Department of State, Washington, D. C.

“The State Department—Its Functions and Organization.”

OLIVER H. G. LEIGH.

“Some Notable Englishmen of the Day.”

### PHI BETA KAPPA ORATION.

IRA REMSEN, M. D., Ph. D., LL. D., Professor of Chemistry and Director of the Chemical Laboratory in the Johns Hopkins University.

“Some Unsolved Problems of Chemistry.”

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## GRADING OF STUDENTS.

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STUDENTS are classified according to their grades, into five sections, A, B, C, D, E. Each student is notified of the section to which he has been assigned, but the grades are not published. Section E is composed of those who cannot be advanced to the next class, or receive their Bachelor's degree. Daily recitations, hour examinations, and final examinations are all utilized in determining the standing of a student.

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## ADVANCED DEGREES.

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Graduates of Haverford College of three years' standing may take the degree of Master of Arts or of Master of Science by passing an examination on some literary or scientific course of



study which shall have received the approbation of the Faculty.

Candidates who are examined may also be required to hand in dissertations on topics in the field of study which they have specially investigated.

Resident graduates, who have completed an adequate course of study, may be admitted to an examination for a second degree at the expiration of one or two years.

Notice of application for examination must be given to the President two months before Commencement. The examination for non-residents will be held during the last week in the Fifth month, and in no case at a later date. The fee for the Master's diploma is twenty dollars, to be paid in all cases before the 1st of the Sixth month.

Adequate courses of study for the Master's degree will be arranged on application to the President.

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## EXPENSES.

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The charge for tuition, board and room rent varies with the location of the room from \$400 to \$600 a year.

The number of students for whom there is accommodation at the different rates is as follows :

Founders Hall,	14	at \$400 each.
Barclay Hall,	24	at \$450 each.
“ “	56	at \$500 each.
“ “	2	at \$525 each.
Lloyd Hall,	12	at \$575 each.
“ “	4	at \$600 each.

NOTE. —The rent of rooms includes steam heat, electric light, necessary bed-room furniture, and care of rooms. Students will supply their own study-room furniture, also towels and table napkins.

The charge for tuition is one hundred and fifty dollars (\$150) a year ; for tuition and mid-day meal, two hundred dollars (\$200) a year.

Books and stationery will, at the option of the student, be supplied by the College and charged on the half-yearly bills. Materials consumed and breakage in the laboratories are also charged.

Bills for board and tuition are payable, three-fifths at the beginning, and two-fifths at the middle of the college year.

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## SCHOLARSHIPS.

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I. Senior Scholarships. Four scholarships of the annual value of \$300 each are offered to graduates nominated by the Faculties of Earlham, Penn, Wilmington, and Guilford Colleges.

The charges for board and tuition are from \$400 to \$600 per year according to the location of the room. Rooms at the former rate will be reserved until Fifth month 1st of each year for the recipients of Senior scholarships in the succeeding year.

II. I. V. Williamson Scholarships. Three scholarships of the annual value of \$400 each.

III. Richard T. Jones Scholarship. One scholarship of the annual value of \$400.

II and III are so arranged that usually only one is vacated each year and awarded to a Freshman.

IV. Corporation Scholarships. Sixteen scholarships of the annual value of \$300 each will be awarded after competitive examination. They are open to all applicants for admission to the Freshman class.

Details of the examination will be given on application to the President.

V. Foundation Scholarships. Eight scholarships of the annual value of \$300 each. Three of these may be given on the nomination of the Faculty of Westtown Boarding School.

VI. Edward Yarnall Scholarship. One scholarship of the annual value of \$200. Open only to Friends.

VII. Thomas P. Cope Scholarship. One scholarship of the annual value of \$200. Open only to Friends who intend to teach.

VIII. Sarah Marshall Scholarship. One scholarship of the annual value of \$200.

IX. Mary M. Johnson Scholarship. One scholarship of the annual value of \$200.

X. Isaac T. Johnson Scholarship. One scholarship of the annual value of \$200 given on the nomination of Friends' School, Fourth and West streets, Wilmington, Del.

XI. Day Scholarships. Eight scholarships of the annual value of \$100 each.

XII. One scholarship of the annual value of \$150, which may be given on the nomination of the Lower Merion High School.

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All scholarships are given for one year only, but they may be renewed by the College (except I, X and XII) if the conduct and standing of the recipient be satisfactory.

I, X and XII will thus be vacated yearly, and about one-fourth of the others.

Except XI and XII, all scholarships involve residence at the College.

All applicants must present satisfactory proof of good preparation and of high character.

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## THE HAVERFORD FELLOWSHIP.

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This fellowship, of the annual value of \$500, may be awarded by the Faculty to the best qualified applicant from the Senior class. He is required to spend the succeeding year in study at some American or foreign university approved by the Faculty.

## PRIZES.

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### ALUMNI PRIZE FOR COMPOSITION.

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The Association of the Alumni, in the year 1875, established an annual prize, either a gold medal or an equivalent value in books with a bronze medal, for excellence in composition and oratory.

The following are the rules governing the competition :

I. The Alumni medal is offered yearly to the competition of the members of the Senior and Junior classes, as a prize for the best delivered oration prepared therefor.

II. Three or five judges shall be appointed from year to year by the Alumni Committee, who shall hear publicly, in Alumni Hall, all competitors who may be qualified to appear.

III. No oration shall occupy in delivery more than fifteen minutes.

IV. In making their award, while due weight is given to the literary merits of the oration, the judges are to consider the prize as offered to encourage more especially the attainment of excellence in elocution.

V. The judges shall have the right to withhold the prize if the elocution and the literary merits of the oration fall below a creditable standard of excellence.

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### THE EVERETT SOCIETY MEDAL.

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This silver medal is offered by the donor to the members of the two lower classes for competition in oratory. It is given in memory of the old Everett Society.

Orations shall not exceed ten minutes in delivery, shall be prepared considerably in advance, and perfectly committed to memory.

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### JOHN B. GARRETT PRIZES FOR SYSTEMATIC READING.

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Four prizes of \$40, \$30, \$20 and \$10 respectively, will be given to those members of the Junior class who, having creditably pursued their regular studies and paid proper attention to physical

culture, shall have carried on the most profitable course of reading in standard authors during the Sophomore and Junior years.

The direction of the work and the decision in the award of the prizes shall be in the hands of a committee consisting of the President, the Librarian and the Professor of English.

There will be an oral examination to determine the scope and quality of the reading, and a thesis treating of subjects embraced in the course will be required.

Any or all of these prizes may be omitted if, in the judgment of the committee, the work does not justify an award.

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#### THE CLASS OF 1896 PRIZES IN LATIN AND MATHEMATICS.

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These are two prizes of \$10 each. They will be awarded at the end of the Sophomore year, for proficiency in Latin and mathematics respectively.

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#### PHILIP C. GARRETT PRIZES.

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These are five prizes of \$10 each, in books or cash, as follows :—

1. To the most proficient student in mathematics at the end of the Senior year.
2. To the most proficient student in Greek at the end of the Freshman year.
3. To the most proficient student in Latin at the end of the Freshman year.
4. To the best writer of themes in the Freshman class.
5. To the member of the Senior or Junior class who shall have done the most thorough and satisfactory work in biology.

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#### THE CLASS OF 1898 PRIZE IN CHEMISTRY.

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The Class of 1898 offers a prize of \$10 in books to the member of either the Senior or Junior class who, in the judgment of the professor in charge, shall have done the most thorough and satisfactory work during the year in the laboratory, and in oral and written examinations.

The prize will not be awarded twice to the same student.

## HONORS.

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For the purpose of honors, studies are divided as follows :

*a.* Literary group : namely, the Greek, Latin, German and French languages, English literature, history, philosophy and political science.

*b.* Scientific group : namely, astronomy, biology, chemistry, engineering, mathematics and physics.

Candidates for honors shall elect from any two studies in one of these groups at least five hours per week during the Junior year, and eight hours per week during the Senior year, and shall announce their candidacy at the beginning of the Junior year.

*Highest Honors* and *Honors* may be given, dependent on the judgment of the professors in charge. They will base their decisions on special examinations, or on the character of the daily work.

*General Honors* are awarded for a general average of ninety per cent., or over, during the Senior and Junior years.

Honors will be announced at Commencement and in the succeeding catalogue.

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## SOCIETIES.

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The Loganian Society was established by the officers and students in 1834, and is now a debating society.

A chapter of Phi Beta Kappa, the inter-collegiate honor society, was established at the College in 1898.

The Classical Club and the Scientific Society hold monthly meetings for the reading of papers, the presentation of reports, and the discussion of such topics as may be suggested by their members.

A flourishing branch of the Young Men's Christian Association exists at the college.

## DEGREES, PRIZES AND HONORS GRANTED IN 1900.

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At the Commencement in 1900, degrees were granted after examinations to the following graduates :

### BACHELOR OF ARTS.

William Williams Allen, Jr.,	James Smith Hiatt,
William Brown Bell,	Walter Swain Hinclman,
Robert Jones Burdette, Jr.,	Horace Howard Jenks,
Charles Henry Carter,	Henry Lewis d'Invilliers Levick,
John Pim Carter,	Frank Eugene Lutz,
Francis Reeve Cope, Jr.,	Samuel Wright Mifflin,
Henry Sandwith Drinker, Jr.,	J. Kennedy Moorhouse,
John Thompson Emlen,	Heber Sensenig,
Frank Mercur Eshleman,	Frederic Cope Sharpless,
Edward Dale Freeman,	Edward Ballinger Taylor, Jr.,
Henry McLellan Hallet,	Joseph McFerran Taylor.

### BACHELOR OF SCIENCE.

Charles Jackson Allen,	Jonathan Irving Peelle,
Christian Febiger,	Abram Gibbons Tatnall,
William Warner Justice, Jr.,	Wilfred Wallace White.

### MASTER OF ARTS.

Frank Keller Walter.

### DOCTOR OF PHILOSOPHY.

Frank Herbert Loud.

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### PRIZES.

*The Haverford Fellowship (\$500) for 1900-1901 was awarded to*  
William Brown Bell.

*The Alumni Prize in Composition and Oratory (\$50) was awarded to*  
Howard Valentine Bullinger.

*The Everett Society Medal in Oratory for Sophomores and Freshmen was awarded to*

William Pyle Philips.

*The John B. Garrett Prizes for systematic reading for Juniors were awarded to*

First Prize (\$60.00).....Edward Marshall Scull.

Second Prize (\$40.00) .....John Warder Cadbury.

*The Class of 1896 Prizes in Latin and Mathematics for Sophomores and Freshmen were awarded to*

Latin (\$10.00).....Richard Mott Gummere.

Honorable Mention .....Edward Wyatt Evans.

Mathematics (\$10.00).....Wayne Sensenig.

Honorable Mention .....Edgar Earl Trout.

*The Philip C. Garrett Prizes were awarded to*

Senior or Junior Biology (\$10.00).....Wilfred Wallace White.

Sophomore Themes (\$10.00) .....Edgar Earl Trout.

Freshman Latin (\$10.00) .....Henry Joel Cadbury.

Honorable Mention .....Harry Anthony Dominovich.

Freshman Greek (\$10.00).....Henry Joel Cadbury.

Honorable Mention.....Harry Anthony Dominovich.

*The Class of 1898 Prize in Chemistry (\$10.00 in books) for Seniors or Juniors was awarded to*

Arthur Ralston Yearsley.

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## HONORS.

*Seniors elected to the Phi Beta Kappa Society.*

William Brown Bell.

Charles Henry Carter.

General Honors.....	{ William Brown Bell.
	{ Charles Henry Carter.
Highest Honors in English .....	Charles Henry Carter.
Highest Honors in Political Science..	William Brown Bell.
Honors in Biology.....	{ Frank Eugene Lutz.
	{ Frederic Cope Sharpless.
Honors in English.....	William Warner Justice, Jr.
Honors in Political Science.....	Francis Reeve Cope, Jr.



# LIST OF GRADUATES AND HONORARY DEGREES.

(Degrees conferred by other institutions are indicated by *italics* )

THE ONLY DEGREE GRANTED ON GRADUATION BEFORE 1877 WAS THAT OF BACHELOR OF ARTS.

## GRADUATES.

1836	1842
*Thomas F. Cock, <i>M.D.</i> , LL. D., *1896	Robert Bowne
*Joseph Walton, *1898	*Richard Cadbury, *1897
	*William S. Hilles, *1876
1837	*Thomas Kimber, Jr., LL.D., *1890
*William C. Longstreth, *1881	*James J. Levick, <i>M.D.</i> , A.M., *1893
*David C. Murray, *1885	Edmund Rodman, A. M.
*Lindley Murray, *1897	Thomas R. Rodman, <i>A. B.</i>
*Benjamin V. Marsh, 1882	Benjamin R. Smith
*Joseph L. Pennock, *1870	*Augustus Taber, *1898
*Robert B. Parsons, *1898	*Caleb Winslow, <i>M. D.</i> , *1895
*Charles L. Sharpless, *1882	
*Lloyd P. Smith, A.M., *1886	1843
*B. Wyatt Wistar, *1869	Robert B. Howland
	Francis White
1838	*William D. Stroud, <i>M. D.</i> , *1883
*James V. Emilen, <i>M. D.</i> , *1880	
*John Elliott, *1893	1844
	Evan T. Ellis
1839	*Robert E. Haines, *1895
*Frederick Collins, *1892	Isaac Hartshorne
*Thomas P. Cope, 1900	
*Henry Hartshorne, <i>M.D.</i> , A.M., LL.D.	1845
*1897	*Edmund A. Crenshaw, *1894
*Nereus Mendenhall, <i>M. D.</i> , *1893	*Robert Pearsall, *1849
Richard Randolph, Jr., <i>M. D.</i>	
*Charles Taber, *1887	
	1849
1840	Albert K. Smiley, A. M.
*Joseph Howell, *1889	Alfred H. Smiley, A. M.
Anthony M. Kimber	
*Henry H. G. Sharpless, *1870	1851
*John R. Winslow, <i>M. D.</i> , 1866	Joseph L. Bailey
	Philip C. Garrett
1841	*Thomas J. Levick, *1893
*Richard H. Lawrence, *1847	Franklin E. Paige, A. M.
*James P. Perot, *1872	
*Elias A. White, 1866	

Zaccheus Test, *M. D.*, A. M.  
 \*James C. Thomas, *M. D.*, A. M., \*1897  
 Richard Wood

1852

\*Dougan Clark, *M. D.*, \*1896  
 Lewis N. Hopkins  
 \*William L. Kinsman, \*1899  
 William E. Newhall  
 \*James Whitall, \*1896

1853

William B. Morgan, A. M.  
 \*William H. Pancoast, *M. D.*, A. M.,  
 \*1897

1854

\*Frederick Arthur, Jr., \*1891  
 John W. Cadbury  
 John B. Garrett  
 David Scull

1855

\*Samuel Bettie, 1859  
 John R. Hubbard, A. M.

1856

Bartholomew W. Beesley  
 Joel Cadbury, Jr.  
 Jonathan J. Comfort, *M. D.*  
 \*James M. Walton, \*1874  
 Edward R. Wood, A. M.

1857

Jesse S. Cheyney, A. M.  
 \*Cyrus Mendenhall, \*1858  
 \*Stephen Wood, \*1890

1858

\*Thomas H. Burgess, \*1893  
 Thomas Clark  
 \*Daniel W. Hunt, \*1898  
 \*Samuel T. Satterthwaite, 1865  
 William G. Tyler  
 Thomas Wistar, A. M., *M. D.*  
 Ellis H. Yarnall, *L.L.B.*

1859

\*Richard W. Chase, \*1865  
 James R. Magee  
 \*Richard C. Paxson, \*1864  
 \*Edward Rhoads, *M. D.*, \*1871  
 Edward C. Sampson

\*George Sampson, \*1872  
 Abram Sharpless, *M. D.*  
 Benjamin H. Smith

1860

\*Lindley M. Clark, \*1861  
 \*William B. Corbit, *M. D.*, \*1872  
 \*William M. Corlies, \*1881  
 Cyrus Lindley  
 Theodore H. Morris  
 Frederick W. Morris  
 Richard Pancoast  
 \*John W. Pinkham, *M. D.*, \*1894  
 Francis Richardson  
 Clement L. Smith, A. M., *L.L.D.*  
 James Tyson, *M. D.*, A. M.  
 Silas A. Underhill, *L.L.B.*

1861

Edward Bettie, Jr.  
 \*Henry Bettie, \*1886  
 \*Charles Bettie, \*1883  
 William B. Broomall  
 Charles H. Jones  
 \*Thomas W. Lamb, A. M., *M. D.*,  
 \*1878  
 William N. Potts  
 John H. Stuart, A. M., *M. D.*  
 John C. Thomas

1862

Henry T. Coates, A. M.  
 \*Samuel A. Hadley, \*1864  
 Horace G. Lippincott  
 George B. Mellor  
 Horace Williams, *M. D.*  
 \*Isaac F. Wood, \*1895

1863

Thomas J. Battey, A. M.  
 \*George M. Coates, Jr., A. M., \*1894  
 William M. Coates  
 \*Richard T. Jones, \*1869  
 William H. Morris  
 Joseph G. Pinkham, *M. D.*, A. M.

1864

\*Franklin Angell, A. M., \*1882  
 \*William Ashbridge, *M. D.*, \*1884  
 Edward H. Coates  
 Howard M. Cooper, A. M.  
 Albin Garrett

Morris Longstreth, *A. B., M. D., A. M.* Edward B. Taylor, *M. C. E.*

\*Albert Pancoast, \*1898

Charles Roberts,

\*E. Pope Sampson, \*1893

\*Edward L. Scull, \*1884

\*Randolph Wood, \*1876

1865

John R. Bringham

\*Edward T. Brown, \*1892

James A. Chase

Joseph M. Downing

Arthur Haviland

\*David H. Nichols, \*1865

Henry W. Sharpless

\*George Smith, Jr., \*1872

Robert B. Taber, A. M.

Allen C. Thomas, A. M.

Benjamin A. Vail

Caleb Cresson Wistar

1866

A. Marshall Elliott, A. M., *Ph. D.*,  
*LL. D.*

Benjamin E. Valentine, *LL. B.*

1867

George Ashbridge, A. M., *LL. B.*

\*John Ashbridge, \*1881

William P. Clark, A. M., *LL. B.*

Samuel C. Collins, A. M.

Nathaniel B. Crenshaw

Charles H. Darlington, A. M.

\*William T. Dorsey, *M. D.*, \*1870

B. Franklin Eshleman

Richard M. Jones, A. M., *LL. D.*

\*Charles W. Sharpless, \*1889

Walter Wood

1868

Edward H. Cook

\*Alexis T. Cope, \*1883

Benjamin C. Satterthwaite

Louis Starr, *M. D.*

S. Finley Tomlinson

Joseph H. Wills, A. M., *M. D.*

1869

Johns H. Congdon

Henry Cope, A. M.

\*Ludovic Estes, *A. M., Ph. D.*, \*1898

\*Henry Eval, A. M., \*1877

\*William B. Kaighn, \*1876

Pendleton King, A. M.

William H. Randolph

William S. Taylor

James G. Whitlock

Walter Wood

Henry Wood, *Ph. D.*

1870

J. Stuart Brown

John E. Carey

Alford G. Coale

Howard Comfort

T. Allen Hilles

William H. Hubbard, *M. D.*

\*Thomas K. Longstreth, A. M.,

\*1883

Oliver G. Owen, A. M.

\*Charles E. Pratt, A. M., \*1898

David F. Rose

\*John D. Steele, \*1886

Charles Wood, A. M., *D. D.*

Stuart Wood, *Ph. D.*

1871

Henry G. Brown

\*William P. Evans, \*1893

John S. Garrigues

Reuben Haines, A. M.

William H. Haines

Joseph Hartshorne

Jesse F. Hoskins

Walter T. Moore

Ellis B. Reeves

Alfred R. Roberts

Charles S. Taylor

Edward D. Thurston

Randolph Winslow, *M. D.*, A. M.

1872

Richard Ashbridge, *M. D.*

Richard T. Cadbury, *A. B., A. M.*

James Carey, Jr., *LL. B.*

Thomas S. Downing, Jr.

Walter Erben

\*Thomas Rowland Estes, \*1898

John E. Forsythe

William H. Gibbons, A. M.

Francis B. Gummere, *A. B., A.*

*M., Ph. D.*

Caspar Wister Haines, A. M.,

*C. E.*

Abram Francis Huston

\*Marmaduke Cope Kimber, A. M.,

\*1877

William M. Longstreth

Richard H. Thomas, *M. D.*

1873

James C. Comfort  
 Thomas P. Cope, Jr.  
 George W. Emlen  
 Joseph M. Fox  
 \*Henry C. Haines, 1900  
 Benjamin H. Lowry, A. M.  
 Alden Sampson, A. M., *A. B.*, *A. M.*  
 \*Julius L. Tomlinson, A. M., \*1890

1874

Edward P. Allinson, A. M.  
 John G. Bullock  
 James Emlen  
 Charles R. Hartshorne, *LL.B.*  
 Samuel E. Hilles  
 John B. Jones  
 \*Mahlon Kirkbride, \*1889  
 Theophilus P. Price  
 James B. Thompson  
 Joseph Trotter

1875

Edward K. Bispham  
 Alonzo Brown, A. M.  
 J. Franklin Davis, A. M.  
 Charles E. Haines  
 \*William Hunt, Jr., 1898  
 Charles L. Huston  
 Harold P. Newlin  
 Walter W. Pharo  
 Charles E. Tebbetts  
 Miles White, Jr

1876

Francis G. Allinson, A. M., *Ph. D.*  
 David S. Bispham  
 Reuben Colton  
 Henry W. Dudley  
 Seth K. Gifford, A. M.  
 L. Lyndon Hobbs, A. M.  
 Richard H. Holme  
 \*Thomas William Kimber, \*1885  
 Charles A. Longstreth  
 J. Whittall Nicholson  
 Percival Roberts, Jr.  
 Frank H. Taylor  
 Howard G. Taylor  
 \*Lewis A. Taylor, \*1881

1877

A. B.

Isaac W. Anderson  
 Frederick L. Bailey

Isaac Forsythe  
 James D. Krider  
 George G. Mercer, *LL.M.*, *J.C.D.*  
 Wilson Townsend

S. B.

William F. Smith

1878

A. B.

Henry Bailly, *A. B.*, *A. M.*  
 Albert L. Bailly  
 Francis K. Carey, *LL. B.*, *A. M.*  
 Edward T. Comfort  
 Charles S. Crosman *A.B.*, *LL.B.*  
 Samuel Hill, *A. B.*  
 Lindley M. H. Reynolds  
 Daniel Smiley, Jr.  
 Henry L. Taylor, A. M., *M. D.*  
 John M. W. Thomas  
 George W. White

S. B.

Jonathan Eldridge  
 Edward Forsythe  
 Cyrus P. Frazier, *A. B.*  
 Robert B. Haines, Jr.  
 Henry N. Stokes, *Ph. D.*

1879

A. B.

Samuel Bispham, Jr.  
 \*Edward Gibbons, \*1891  
 John H. Gifford, *M. D.*  
 Francis Henderson, *LL. B.*  
 William C. Lowry  
 John B. Newkirk  
 John E. Sheppard, Jr., *M. D.*

1880

A. B.

Charles F. Brédé, A. M.  
 Charles E. Cox, *A. M.*  
 Josiah P. Edwards  
 James L. Lynch  
 Samuel Mason, Jr.  
 William F. Perry  
 Joseph Rhoads, Jr., A. M.

S. B.

William Bishop  
 Alexander P. Corbit  
 Charles E. Gause, Jr.  
 Edward M. Jones

1881

A. B.

William A. Blair, *A. M.*

A. Morris Carey

Levi T. Edwards, *A. M.*

Edward Y. Hartshorne

Isaac T. Johnson, *A. M.*

Edwin O. Kennard

Jesse H. Moore

William E. Page

Walter F. Price, *A. M.*, *A. M.*

Thomas N. Winslow

John C. Winston

S. B.

Walter Brinton

William H. Collins, *A. M.*

Joseph Horace Cook

Davis H. Forsythe

Albanus L. Smith

1882

A. B.

George A. Barton, *A. M.*, *A. M.*, *Ph. D.*

Isaac M. Cox

Richard B. Hazard

Wilmot R. Jones

\*Wilmer P. Leeds, \* 1885

J. Henley Morgan

Edward Randolph

S. B.

John E. Coffin

Daniel Corbit

George L. Crosman

Frederick D. Jones

T. Chalkey Palmer

Lindley M. Winston

1883

A. B.

John Blanchard, *LL. B.*

Frank E. Briggs

George H. Evans

Francis B. Stuart

Bond V. Thomas

Thos. K. Worthington, *LL. B.*, *Ph. D.*

S. B.

William L. Bailly

Stephen W. Collins, *LL. B.*

D. William Edwards

William E. Scull

\*Samuel B. Shoemaker, *M. D.*,

\*1893

John S. Spruance

W. Alpheus White

Charles H. Whitney

Louis D. Whitney

1884

A. B.

John Henry Allen, *A. M.*

Orren William Bates

Thomas Herbert Chase

William J. Haines

Arthur D. Hall

Charles D. Jacob

Alfred Percival Smith, *A. B.*,*LL. B.*

S. B.

Louis T. Hill

Walter L. Moore

George Vaux, Jr., *LL. B.*

L. B.

Francis A. White

1885

A. B.

Samuel Bettie

Enos L. Doan

William T. Ferris

William S. Hilles

William T. Hussey

Arthur W. Jones, *A. M.*Rufus M. Jones, *A. M.*, *Litt. D.*Joseph L. Markley, *A. M.*, *A. M.**Ph. D.*

Marriott C. Morris

Augustus T. Murray, *Ph. D.*

Augustus H. Reeve

William F. Reeve

Isaac Sutton, *A. M.*, *A. M.*Elias H. White, *LL. B.*William F. Wickersham, *A. M.*

S. B.

Charles W. Bailly

John J. Blair

Thomas Newlin, *A. M.*Theodore W. Richards, *A. M.*,*Ph. D.*

\*Matthew D. Wilson, \*1891

1886

A. B.

Jonathan Dickinson, Jr., A. M.  
 Alexander H. Scott  
 Horace E. Smith  
 Edward D. Wadsworth, LL. B.

S. B.

\*Thomas W. Betts, \* 1893  
 Guy R. Johnson  
 William S. McFarland  
 \*Israel Morris, Jr., \*1894  
 William P. Morris  
 Alfred M. Underhill, Jr.  
 Wilfred W. White

1887

A. B.

J. Howe Adams, M. D.  
 Edward B. Cassatt  
 William H. Futrell, LL. B.  
 Alfred C. Garrett, A. B., A. M.,  
*Ph. D.*  
 Henry H. Goddard, A. M., *Ph. D.*  
 Willis Hatfield Hazard, A. M., *Ph. D.*  
 Barker Newhall, A. M., *Ph. D.*  
 Jesse E. Phillips, Jr., A. M.  
 Henry W. Stokes  
 Frederic H. Strawbridge  
 Richard J. White  
 \*George B. Wood, \*1894  
 William C. Wood

S. B.

\*Arthur H. Baily, \*1889  
 Charles H. Bedell, A. M.  
 Allen B. Clement, A. M.  
 Horace Y. Evans, Jr.  
 Hugh Lesley  
 \*William W. Trimble, \*1891

B. E.

P. Hollingsworth Morris

1888

A. B.

E. Morris Cox  
 Howell S. England, A. M.  
 Allison W. Slocum, A. M.  
 Martin B. Stubbs, A. M., *Ph. D.*

S. E.

Charles H. Battey  
 John C. Corbit, Jr.  
 Morris E. Leeds  
 William Draper Lewis, LL. B.,  
*Ph. D.*  
 Henry V. Gummere, A. M.  
 Francis C. Hartshorne, A. M.,  
*LL. B.*  
 Joseph T. Hilles  
 George Brinton Roberts  
 Joseph W. Sharp, Jr.

B. E.

Lawrence P. Beidelman  
 Joseph E. Johnson, Jr., M. E.  
 Frederick W. Morris, Jr.  
 Richard J. Morris

1889

A. B.

Robert C. Banes  
 Thomas F. Branson, M. D.  
 Charles H. Burr, Jr., A. M., LL. B.  
 Thomas Evans  
 Warner H. Fite, *Ph. D.*  
 Warren C. Goodwin  
 Victor M. Houghton  
 Franklin B. Kirkbride  
 Daniel C. Lewis  
 Lawrence J. Morris  
 William F. Overman  
 Frank W. Pierson, A. M.  
 Samuel Priolean Ravenel, Jr.,  
*LL. B.*  
 Walter George Reade  
 Lindley M. Stevens, A. M.  
 John Stoddell Stokes  
 \*Layton W. Todhunter, \*1889  
 Frederick N. Vail, A. M.  
 Gilbert C. Wood

S. B.

William R. Duntton, A. M., M. D.  
 Arthur N. Leeds, A. M.  
 J. Henry Painter  
 David J. Reinhardt  
 Frank E. Thompson, A. M.

B. E.

Herbert Morris

1890

A. B.

Edward M. Angell, LL. B.  
 James Stuart Auchincloss

William G. Audenried, Jr.  
 Henry R. Bringham, Jr.  
 Charles T. Cottrell, A. M., *LL. B.*  
 Guy H. Davies  
 Robert E. Fox  
 Henry L. Gilbert, A. M., *Ph. D.*  
 William G. Jenkins  
 \*Thomas S. Kirkbride, Jr., *M. D.*, \*1900  
 Jonathan M. Steere, A. M.

S. B.

Thomas Amory Coffin  
 Percy C. Darlington  
 William M. Guilford, Jr.  
 John N. Guss  
 Edwin J. Haley, A. M.  
 Robert R. Tatnall, A. M., *Ph. D.*  
 Dilworth P. Hibberd, A. M., *LL. B.*  
 Alfred C. Tevis

B. E.

John F. Taylor Lewis  
 Edward R. Longstreth  
 William Percy Simpson  
 Ernest Forster Walton

1891

A. B.

Harry Alger  
 David H. Blair  
 Henry A. Todd

S. B.

William W. Handy  
 Arthur Hoopes  
 John Wetherill Hutton  
 David L. Mekeel, M. E.  
 John Stokes Morris, A. M.  
 George Thomas, 3rd.

1892

A. B.

Richard Brinton  
 I. Harvey Brumbaugh, *A. B.*  
 Benjamin Cadbury, A. M.  
 Joseph Henry Dennis  
 Warren H. Detwiler, A. M.  
 Rufus Hacker Hall  
 Walter Morris Hart, A. M.  
 Gilbert Joseph Palen, *M. D.*  
 Ralph Warren Stone  
 W. Nelson Loflin West, *LL. B.*  
 Stanley Rhoads Yarnall, A. M.

S. B.

Augustine W. Blair, A. M.  
 Egbert Snell Cary  
 Minturn Post Collins  
 Charles Gilpin Cook, A. M., *Ph. D.*  
 William Pearson Jenks  
 Franklin McAllister  
 John Wallingford Muir  
 William Hopkins Nicholson, Jr.  
 William Ellis Shipley  
 Joseph Remington Wood, *Ph. G.*,  
 A. M.

1893

A. B.

Leslie Albert Bailey, A. M.  
 \*John Farnum Brown, \*1894  
 Wilbur Albert Estes  
 Walter Winchip Haviland  
 Clarence Gilbert Hoag, *A. B.*,  
 A. M.  
 Carroll Brinton Jacobs, *LL. B.*  
 George Lindley Jones  
 Charles Osborne  
 Charles James Rhoads  
 Eugene M. Wescott  
 \*Franklin Whitall, \*1894  
 Gifford King Wright

S. B.

Francis F. Davis, A. M.  
 Arthur Villiers Morton  
 John Mickle Okie  
 Edward Rhoads, *Ph. D.*  
 John Roberts  
 Barton Sensenig  
 William Sansom Vaux, Jr.  
 Edward Woolman

1894

A. B.

George A. Beyerle  
 Charles Collins  
 William Wistar Comfort, *A. B.*,  
 A. M.  
 John Allen DeCou, *A. B.*, A. M.  
 Clifford Bailey Farr, *M. D.*  
 John Paul Haughton  
 James Edward Hughes  
 Louis Jaquette Palmer  
 Frank Clayton Rex  
 Frederick Pearce Ristine  
 Francis Joseph Stokes  
 David Shearman Taber, Jr.  
 Parker Shortridge Williams

S. B.

J. Henry Bartlett  
 Oscar Marshall Chase, S. M.  
 Henry Shoemaker Conard, A. M.  
 George Brookhouse Dean, *M. D.*  
 Kane Stovell Green  
 Anson Burlingame Harvey, A. M.  
 Samuel Wheeler Morris  
 Edward Entwisle Quimby  
 Henry Wismer Scarborough, A. M.,  
*LL. B.*  
 William Justus Strawbridge

1895

A. B.

Samuel Bettle, Jr.  
 Edmund Blanchard, Jr., *LL. B.*  
 Samuel Hulme Brown  
 Frank Henry Conklin  
 Charles Howland Cookman  
 James Linton Engle  
 Joseph Spragg Evans, Jr., *M. D.*  
 Henry John Harris  
 George Lippincott, *A. B.*

S. B.

William Goodman, *A. B.*  
 Arthur Moorhead Hay  
 Erroll Baldwin Hay  
 William Smedley Hilles  
 John Bacon Leeds  
 Charles Clifford Taylor  
 Allen Curry Thomas, A. M., *LL. B.*  
 Henry Evan Thomas  
 Walter Coates Webster

1896

A. B.

Douglas Howe Adams, *A. B.*  
 George Raymond Allen  
 Milton Clauser  
 Arthur Fernandez Coca, A. M., *M. D.*  
 George Henry Deuell  
 Thomas Harvey Haines, A. M., *A. M.*  
 John Ashby Lester, A. M., *A. M.*,  
*Ph. D.*  
 Paul D. I. Maier, *LL. B.*  
 Joseph Henry Scattergood, *A. B.*  
 Levi Hollingsworth Wood, *LL. B.*

S. B.

William Kite Alsop  
 William Henry Bettle  
 Samuel Kriebel Brecht  
 Mark Brooke

Albert Dempsey Hartley  
 Charles Russell Hinchman  
 John Quincy Hunsicker, Jr.  
 Samuel Middleton  
 Charles Dickens Nason, *Ph. D.*  
 Marshall Warren Way, *LL. B.*  
 Homer Jephtha Webster, A. M.

1897

A. B.

Richard Cadbury Brown, *A. B.*,  
*A. M.*  
 Morton Pennock Darlington  
 Elliot Field  
 Vincent Gilpin, *A. B.*  
 Benjamin Rose Hoffman  
 Charles Henry Howson, *LL. B.*  
 John Elias Hume, *M. D.*  
 Francis Norton Maxfield  
 Roswell Cheyney McCrea  
 Ottis Earl Mendenhall, A. M.  
 Warren Brown Rodney  
 Edward Thomas  
 Henry Alva White

S. B.

William John Burns  
 Morris Burgess Dean  
 Frank Hughes Detwiler  
 Francis Brinton Jacobs, *M. D.*  
 George Martin Palmer  
 Charles Gibbons Tatnall  
 William Jordan Taylor  
 Frank William Thacher

1898

A. B.

James Edgar Butler  
 William Warder Cadbury, A. M.  
 Alfred Sharpless Haines  
 Joseph Howell Haines  
 Arthur Search Harding, *A. B.*  
 Samuel Horace Hodgkin  
 Walter Coggeshall Janney  
 Morris Matthews Lee  
 Oscar Peyton Moffitt  
 Samuel Rhoads  
 Alfred Garrett Scattergood, *A. B.*  
 Frederick Stadelman  
 Ira Isbon Sterner, A. M.  
 Frederick Asa Swan  
 Robert North Wilson  
 Thomas Wistar  
 Richard Davis Wood



## S. B.

Richard Stanton Ellis  
John Gyger Embree  
Davis Godfrey Jones  
Eldon Roxy Ross  
Francis Reeves Strawbridge  
Joseph Wright Taylor

1899

## A. B.

William John Bawden  
Walter Elihu Blair  
William Bode  
Royal Jenkins Davis, *A. B.*  
Francis Algernon Evans  
Rufus Horton Jones  
Arthur Clement Wild  
Howard Haines Lowry, *A. B.*  
Edward Hough Lycett  
Joseph Paul Morris  
Herbert Clinton Petty  
Malcolm Augustus Shipley, Jr.  
Frank Keller Walter, *A. M.*

## S. B.

William Aldrich Battey  
John Darlington Carter  
\*Edward B. Conklin, \*1900  
Benjamin Satterthwait DeCou  
Alfred Collins Maule  
Ralph Mellor  
John Howard Redfield, Jr.  
Elisha Roberts Richie

1900

## A. B.

William Williams Allen, Jr.  
William Brown Bell  
Robert Jones Burdette, Jr.  
Charles Henry Carter  
John Pim Carter  
Francis Reeve Cope, Jr.  
Henry Sandwith Drinker, Jr.  
John Thompson Emlen  
Frank Mercur Eshleman  
Edward Dale Freeman  
Henry McLellan Hallett  
James Smith Hiatt  
Walter Swain Hinchman  
Horace Howard Jenks  
Henry Lewis d'Invilliers Levick  
Frank Eugene Lutz  
Samuel Wright Mifflin  
J. Kennedy Moorhouse  
Heber Sensenig  
Frederic Cope Sharpless  
Edward Ballinger Taylor, Jr.  
Joseph McFerran Taylor

## S. B.

Charles Jackson Allen  
Christian Febiger  
William Warner Justice, Jr.  
Jonathan Irving Peelle  
Abram Gibbons Tatnall  
Wilfred Wallace White

Whole number of graduates, 675.

The following resident graduate students have received advanced degrees, not having been undergraduates at Haverford :

1890

William B. Eaton, *A. B.*, Wesleyan, 1889, *A. M.*  
Charles L. Michener, *A. B.*, Penn, 1884, *A. M.*  
Charles F. Pritchard, *A. B.*, Earlham, 1889, *A. M.*  
Robert W. Rogers, *A. B.*, Johns Hopkins, 1887, *Ph. D.*

William C. Sayrs, A. B. Wilmington, 1889, A. M.  
 Charles E. Terrell, A. B. Wilmington, 1888, A. M.  
 Charles H. Thurber, Ph. B., Cornell, 1886, A. M.

## 1891

Lawrence W. Byers, A. B., Penn, 1890, A. M.  
 \*William H. Carroll, A. B., Wilmington, 1890, A. M., \*1897  
 Myron F. Hill, A. B., Harvard, 1890, A. M.  
 Lucian M. Robinson, A. B., Harvard, 1882, A. M.

## 1892

Elmer A. Gifford, S. B., Penn, 1888, A. M.  
 Byron Charles Hubbard, S. B., Earlham, 1891, A. M.

## 1893

Irving Culver Johnson, S. B., Penn, 1892, A. M.  
 Leonard Charles Van Noppen, A. B., Guilford, 1890, B. L. Univ. N. C.  
 1892, A. M.

## 1894

Franklin A. Dakin, A. B., Harvard, 1882, A. M.  
 William W. Hastings, A. B. and A. M., Maryville, 1886 and 1892, A. M.  
 Mahlon Z. Kirk, S. B. Penn, 1893, A. M.  
 Arthur R. Spaid, A. B., Wilmington, 1893, A. M.  
 Edwin Mood Wilson, A. B., Guilford, 1892, A. B., Univ. N. C. 1893, A. M.

## 1895

Ira O. Kemble, S. B., Penn, 1894, A. M.  
 John Oscar Villars, S. B., Wilmington, 1894, A. M.  
 \*Roy Wilson White, S. B., Earlham, 1894, A. M., \*1900

## 1896

James Addison Babbitt, A. B., Yale, 1893, A. M.  
 Arthur Matthew Charles, S. B., Earlham, 1894, A. M.  
 Horace Thornburg Owen, A. B., Hamilton, 1895, A. M.  
 Luther Milton Hunt, S. B., Wilmington, 1895, A. M.  
 Clement Finney Patterson, Ph. B., Penn, 1895, A. M.  
 William W. Hastings, A. B. and A. M., Maryville, 1886, 1892, A. M.,  
 Haverford, 1894, Ph. D.

1897

William Otis Beale, S. B., Earlham, 1896, A. M.

Frank Whittier Else, A. B., Penn, 1896, A. M.

Paul Tasso Terrell, S. B., Wilmington, 1896, A. M.

1900

Frank Herbert Loud, A. B., Amherst, 1873, A. M., Harvard, 1899, Ph. D.

---

HONORARY DEGREES.

---

1858

\*Hugh D. Vail, A. M., \*1900

1859

\*Joseph W. Aldrich, A. M., \*1865

1860

\*John G. Whittier, A. M., \*1892

1864

\*Edward D. Cope, A. M., \*1897

1867

Joseph Moore, A. M.

1872

William Jacobs, A. M.

1875

\*Samuel Alsop, Jr., A. M., \*1883

1876

\*Pliny E. Chase, LL.D. \*1886

\*William H. Pancoast, A. M., \*1897

1877

\*John J. Thomas, A. M., \*1895

1879

Richard M. Jones, A. M.

Ellis Yarnall, A. M.

1880

\*Thomas Chase, LL.D., \*1892

\*Thomas Hughes, LL.D., \*1896

1882

Henry T. Coates, A. M.

1883

\*Thomas F. Cock, LL.D. \*1896

James Wood, A. M.

Henry N. Hoxie, A. M.

1884

\*Joseph Parrish, A. M., \*1893

\*Elijah Cook, A. M., \*1900

1885

\*Julius L. Tomlinson, A. M., \*1890

Robert Howland Chase, A. M.

1886

Edward H. Magill, LL.D.

1887

\*Thomas Kimber, LL.D., \*1890

1878

Clement L. Smith, LL.D.

1890

Joseph J. Mills, LL.D.

1891

Richard M. Jones, LL.D.

1895

\*Henry Trimble, A. M., \*1897

1900

J. Rendel Harris, LL.D.

## HOLDERS OF THE HAVERFORD GRADUATE SCHOLARSHIP.

---

1889-90,	{ CHARLES H. BURR
	{ FRANK E. THOMPSON
1890-91,	DILWORTH P. HIBBERD
1891-92,	DAVID LANE MEKEEL
1892-93,	STANLEY RHOADS YARNALL
1893-94,	FRANCIS F. DAVIS
1864-95,	HENRY S. CONARD
1896-97,	JOHN A. LESTER
1897	ABOLISHED

---

## HOLDERS OF THE HAVERFORD FELLOWSHIP.

---

1897-98,	JOHN ASHEY LESTER, at Harvard University.
1898-99,	MORRIS MATTHEWS LEE, at Harvard University
1899-1900,	JOHN DARLINGTON CARTER, at Johns Hopkins University.
1900-1901,	WILLIAM BROWN BELL, at Columbia University.





# HAVERFORD COLLEGE.

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THE SECRETARY OF HAVERFORD COLLEGE

HAVERFORD, PA.



# Haverford College

Haverford, Pa.



1901-1902

THE PRESIDENT desires to place a copy of the Annual Catalogue in the hands of every alumnus and member of the Corporation. It is requested that all omissions and errors, whether of names or degrees, be reported to the Secretary of the College.

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CATALOGUE

OF

HAVERFORD COLLEGE

1901-1902



HAVERFORD, PA.  
1901.

PHILADELPHIA  
PRESS OF THE LEEDS & BIDDLE CO.  
1019-21 MARKET STREET  
1901

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## CALENDAR.

---

### 1901-1902.

College Year 1901-1902 began*.....	9th Mo.	25
Winter Recess begins.....	12th Mo.	21
Winter Term begins 1902 .....	1st Mo.	2
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Examination for Admission.....	9th Mo.	22-23
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Winter Recess begins.....	12th Mo.	24
Winter Term begins, 1903*..	1st Mo.	5
Commencement Day, 1903 .....	6th Mo.	12

---

\* The first classes at the beginning of each term are held promptly at *half-past nine o'clock*. No absences from them are excused, unless clearly unavoidable.

## HISTORY AND DESCRIPTION.

IN the spring of 1830, a meeting of a few Friends in Philadelphia, shortly followed by a similar meeting in New York, originated Haverford School. The joint committee expressed the object of the effort as follows: "The members of the Society of Friends, having hitherto labored under great disadvantages in obtaining for their children a guarded education in the higher branches of learning, combining the requisite literary instruction with a religious care over the morals and manners of the scholars, . . . and carefully preserving them from the influence of corrupt principles and evil-communications, it is therefore proposed that an institution be established in which the children of Friends shall receive a liberal education in ancient and modern literature, and the mathematical and other sciences."

The \$40,000 supposed to be necessary was raised without great effort, and the committee went out to seek a location. "We wished to procure," they say, "a farm in a neighborhood of unquestionable salubrity—within a short distance of a Friends' meeting—of easy access from this city at all seasons of the year . . . and one that was recommended by the beauty of the scenery and a retired situation." They then report that, of the many places inspected by them, the only one which combined all the advantages was one of 198½ acres (since increased to 225), "near the eight-mile stone of the Lancaster turnpike." They explain the present and prospective merits of the farm, the beauty of the natural woods, the unfailing springs of purest water, the nearness to the new Pennsylvania railroad, in words which the succeeding half-century has amply justified.

On the 28th of Tenth month, 1833, the School opened in Founders' Hall, with 21 students. Provision had been made for a superintendent and three teachers:—

A Teacher of Ancient Languages and Ancient Literature.

A Teacher of English Literature, and Mental and Moral Philosophy.

A Teacher of Mathematics and Natural Philosophy.

The superintendent was to have charge of the government, order, and domestic economy of the family.

The regulations of the new School were rigid. The bounds and hours of the boys were very strictly prescribed. All the details of the daily program were arranged with great care; and, if the elaborate provision of a number of wise men for the normal growth of students could convert boys into perfect men, the students of sixty-five years ago had every advantage.

The School thus established grew rapidly into prosperity and debt. The charges were low, the teachers were liberally paid, and the years which followed were marked by a constant endeavor to produce a maximum of good fruits from very limited funds. The deficiencies were made up in a liberal spirit, and a constant growth was maintained by frequent subscriptions. All the time the School was justifying the effort by the quality of its results, and making for itself an increasing number of friends.

One of the first acts of the committee, after provision for absolute necessities, was to construct a gymnasium and make arrangements for systematic physical work. They were determined that the advantage gained by the salubrity of the surroundings should not be lost for want of exercise. Under their care the lawn was graded at a great expense, and foreign and native trees set out with the design to make it a great arboretum. Cricket, a game not then known elsewhere in America, was introduced and has flourished ever since. A greenhouse and flower-garden were established and maintained for twenty years by the work of the boys. The idea that has done harm elsewhere, that schools are places for mental development only, had no foothold here; but morals, muscles, and senses received their due share of culture.

In 1845 a temporary suspension was decreed to allow the funds to accumulate, and to give time for the collection of an endowment. This suspension lasted for three years. In 1852 the Observatory was built and supplied with an 8¼-inch equatorial and 4-inch transit. In 1856 the School was changed to a college, and was



authorized by the legislature to grant degrees ; but previous to this time the course had been as extended as in most colleges. It was still hampered with a preparatory department, which was not abolished till 1861. In 1863 the Alumni Hall and Library were built. In 1876-7, Barclay Hall, containing private dormitories and study-rooms, was erected at a cost of \$82,000, which was collected by subscription. The Chemical Laboratories were improved in 1878. The new Observatory was built in 1883. The Mechanical Laboratory was established in 1884, and was provided with a new building in 1890. This was burned down in 1896, and Whitall Hall, a new three-story stone structure, was built. The Biological Laboratory was established in 1886, and the Physical Laboratory in 1888. Chase Hall, for lectures and recitations, was built in 1888, and the Cricket Shed in 1893. The new Library Building and Alumni Hall were erected in 1898, and the first two sections of Lloyd Hall in 1899. In 1900 a large and beautiful Gymnasium was built by the alumni, at an expense of \$50,000. Various donations and bequests were received during these years, and in 1897 the Jacob P. Jones endowment, worth about a million dollars, was paid to the College.

During this time Haverford had developed into a fully organized college. Many rules, adapted to boys of boarding-school age, had been modified or abandoned, though enough of restraint was retained to provide against demoralization. The standard of admission was raised. Students of any denomination were admitted. The number of teachers was increased six-fold. The annual charge was increased from \$200 to \$500,\* which still fails to represent what the College has to pay for professors' salaries and the board and care of students.

In Barclay and Lloyd Halls two students occupy a study-room, and each has his private bed-room adjoining. A few single rooms are also available. Recitation-rooms, laboratories, and the dining-room are in Founders' Hall. The library, which now contains more than 39,000 volumes, and the observatory, with valuable instruments, are located in separate buildings. Some of the

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\* The price may vary, depending on the situation of the room, from \$400 to \$575.

professors live in the halls with the students, and others have cottages on the grounds.

The College has a remarkably pleasant and healthful location in the township of Haverford, Delaware County,\* Pa., nine miles west of the centre of Philadelphia, on the main line of the Pennsylvania railroad. The buildings are surrounded by grounds of about sixty acres, tastefully laid out, with a great variety of trees and shrubbery. The grounds provide excellent fields for cricket, football, golf, tennis, and other field games, a running and bicycle track, and a pond for skating.

Retaining the old idea of a "guarded education" and "a religious care over morals and manners," the College has sought to attain such ideals, and has measurably succeeded, by appeals to Christian principle and manliness, rather than by the exercise of arbitrary power.

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\*Haverford *Post Office* is in Montgomery County.

CORPORATION.

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T. WISTAR BROWN,  
233 Chestnut Street, Philadelphia.

*Secretary,*

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JONATHAN EVANS,  
SAMUEL L. ALLEN,

J. STOGDELL STOKES.

*Secretary of the Board,*

HOWARD COMFORT,  
529 Arch Street, Philadelphia.

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CHARLES ROBERTS,

JUSTUS C. STRAWBRIDGE,  
HOWARD COMFORT,  
ASA S. WING,  
RICHARD WOOD,  
JAMES WOOD.

FACULTY.

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ISAAC SHARPLESS, Sc. D., LL. D., PRESIDENT,  
and Professor of Ethics.

ALLEN C. THOMAS, A. M., LIBRARIAN,  
and Professor of History.

LYMAN BEECHER HALL, Ph. D.,  
John Farnum Professor of Chemistry.

\*SETH K. GIFFORD, A. M.,  
Professor of Greek.

LEVI T. EDWARDS, A. M.,  
Professor of Mechanics and Electricity.

\*WILLIAM COFFIN LADD, A. M.,  
Professor of French.

FRANCIS B. GUMMERE, Ph. D.,  
Professor of English and German.

ERNEST WILLIAM BROWN, Sc. D., F. R. S.,  
Professor of Mathematics.

WILFRED P. MUSTARD, Ph. D.,  
Professor of Latin.

WILLIAM H. COLLINS, A. M., PREFECT,  
and Director of the Observatory.

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\*Absent 1901-1902.

*HAVERFORD COLLEGE*

II

HENRY S. PRATT, PH. D.,  
David Scull Professor of Biology.

JAMES A. BABBITT, A. M., M. D., REGISTRAR,  
and Instructor in Physical Training.

RUFUS M. JONES, A. M., Litt. D.,  
Associate Professor of Philosophy.

OSCAR MARSHALL CHASE, S. M., COLLEGE SECRETARY,  
and Instructor in Drawing.

ALBERT S. BOLLES, PH. D., LL. D.,  
Lecturer on Commercial Law and Banking.

DON C. BARRETT, PH. D.,  
Associate Professor of Political Science.

ALBERT ELMER HANCOCK, PH. D.,  
Associate Professor of English and German.

LEGH WILBER REID, PH. D.,  
Associate Professor of Mathematics.

HERMAN L. EBELING, PH. D.,  
Instructor in Greek.

WILLIAM WISTAR COMFORT, A. M.,  
Instructor in Romance Languages.

EDWARD RHOADS, PH. D.,  
Instructor in Physics.

JOHN DARLINGTON CARTER, A. M.,  
Assistant in Chemistry.

## STUDENTS.

## GRADUATE STUDENTS.

Cadbury, William Edward, A. B. (Haverford), *Germantown, Pa.*  
 Carter, John Darlington, S. B., A. M., (Haverford), *West Chester, Pa.*  
 Inumaru, Tetsutaro, A. B. (Sapporo, Hokkaido, Japan), *Tokyo, Japan.*

## SENIOR CLASS.

Balderston, Henry Lloyd,	<i>Colora, Md.,</i>	Mechanical Eng.
Barclay, Joseph John,	<i>Bedford, Pa.,</i>	Arts.
Boles, Edgar Howard,	<i>Ardmore, Pa.,</i>	Arts.
Brown, Justin Emmett,	<i>Rose Hill, Ia.,</i>	Arts.
Brown, Shipley,	<i>Westtown, Pa.,</i>	Science.
Cary, Charles Reed,	<i>Baltimore, Md.,</i>	Science.
Chambers, William Wilkie,	<i>Bryn Mawr, Pa.,</i>	Arts.
Cookman, Arthur Shirley,	<i>New York, N. Y.,</i>	Arts.
Dennis, William Varney,	<i>Dover, N. H.,</i>	Arts.
Evans, Charles,	<i>Norristown, Pa.,</i>	Arts.
Evans, Edward Wyatt,	<i>Germantown, Pa.,</i>	Arts.
Fox, John Sharpless,	<i>West Chester, Pa.,</i>	Arts.
Garrett, George Spencer,	<i>Lansdowne, Pa.,</i>	Science.
Grant, William Henry,	<i>Woonsocket, R. I.,</i>	Mechanical Eng.
Gummere, Richard Mott,	<i>Haverford, Pa.,</i>	Arts.
Haviland, Joseph Bernard,	<i>Glen Falls, N. Y.,</i>	Arts.
Hendricks, Kearney Everett,	<i>Asheboro, N. C.,</i>	Science.
Jones, S. Percy,	<i>Germantown, Pa.,</i>	Science.
Kirk, Edward G.,	<i>Haverford, Pa.,</i>	Arts.
Longstreth, William Collins,	<i>Philadelphia, Pa.,</i>	Arts.
Newman, Herman,	<i>Hargrave, Kansas,</i>	Arts.
Nicholson, Percival,	<i>Haverford, Pa.,</i>	Science.
Philips, William Pyle,	<i>West Chester, Pa.,</i>	Arts.
Pusey, William Webb, II.,	<i>Wilmington, Del.,</i>	Science.
Reeder, John Wallace,	<i>Bellefonte, Pa.,</i>	Science.
Roberts, David Allen,	<i>Moorestown, N. J.,</i>	Mechanical Eng.
Ross, Robert John,	<i>Ardmore, Pa.,</i>	Mechanical Eng.

# HAVERFORD COLLEGE

13

Scattergood, Herbert Armitt,	<i>West Chester, Pa.,</i>	Mechanical Eng.
Schrag, Andrew D.,	<i>Mound Ridge, Kansas,</i>	Arts.
Scott, Norris Alexander,	<i>Moylan, Pa.,</i>	Mechanical Eng.
Seiler, Carlino Linn,	<i>Lewisburg, Pa.,</i>	Mechanical Eng.
Smith, Charles Harper,	<i>Mt. Summit, Ind.,</i>	Arts.
Spiers, Alexander Guy Holborn,	<i>Wayne, Pa.,</i>	Arts.
Stone, John Lyon,	<i>Warren, Pa.,</i>	Arts.
Stork, Charles Wharton,	<i>Germantown, Pa.,</i>	Arts.
Thomas, George Herbert,	<i>Philadelphia, Pa.,</i>	Science.
Trout, Edgar Earl,	<i>Wayne, Pa.,</i>	Arts.
Wistar, Caspar,	<i>La Mott, Pa.,</i>	Special.
Wood, Alexander Cooper, Jr.,	<i>Cinnaminson, N. J.,</i>	Arts.
Woodward, Parke Lewis,	<i>West Chester, Pa.,</i>	Science.

1907

## JUNIOR CLASS.

Barr, Franklin Elverson,	<i>Camden, N. J.,</i>	Arts.
Bateman, Edwin Brooke,	<i>West Chester, Pa.,</i>	Science.
Cadbury, Henry Joel,	<i>Philadelphia, Pa.,</i>	Arts.
Cornman, Clarence Raymond,	<i>Merion Square, Pa.,</i>	Arts.
Dean, Archer Griffin,	<i>Cincinnati, Ohio,</i>	Mechanical Eng.
Dominovich, Harry Anthony,	<i>Philadelphia, Pa.,</i>	Arts.
Drinker, James Blathwaite,	<i>Haverford, Pa.,</i>	Arts.
Duerr, Otto Eugene,	<i>South Bethlehem, Pa.,</i>	Mechanical Eng.
Hoffman, Enoch Farson,	<i>Bryn Mawr, Pa.,</i>	Arts.
Miller, David Blaine,	<i>Pittsburg, Pa.,</i>	Special.
Peirce, George,	<i>Haverford, Pa.,</i>	Arts.
Phillips, Arthur John,	<i>Woonsocket, R. I.,</i>	Arts.
Rabinowitz, Elias Nathan,	<i>Philadelphia, Pa.,</i>	Arts.
Simkin, Robert Louis,	<i>Upperville, N. Y.,</i>	Arts.
Swift, Willard Everett,	<i>Worcester, Mass.,</i>	Special.
Tilney, Israel Sheldon,	<i>Orange, N. J.,</i>	Arts.
Wilson, Samuel Norman,	<i>Oxford, Pa.,</i>	Arts.
Winslow, Fitz Randolph,	<i>Baltimore, Md.</i>	Arts.
Worthington, Joseph Kent,	<i>Haverford, Pa.,</i>	Arts.

1903

## SOPHOMORE CLASS.

Bevan, Edwin Jay,	<i>Rosemont, Pa.,</i>	Mechanical Eng.
Bonbright, William Parker,	<i>Haverford, Pa.,</i>	Arts.
Bradley, William Summers,	<i>Philadelphia, Pa.,</i>	Special.
Brinton, Howard Haines,	<i>West Chester, Pa.,</i>	Arts.

Burgess, Daniel Lawrence,	<i>Poughkeepsie, N. Y.,</i>	Arts.
Clark, Joseph Woodburn,	<i>Westtown, Pa.,</i>	Mechanical Eng.
Crowell, Arthur,	<i>Avondale, Pa.,</i>	Mechanical Eng.
Folwell, Philip Donald,	<i>Philadelphia, Pa.,</i>	Science.
Haig, Chester Raymond,	<i>Merchantville, N. J.</i>	Arts.
Helbert, George Kingman,	<i>St. Davids, Pa.,</i>	Mechanical Eng.
Hilles, William Tatum,	<i>Cincinnati, Ohio,</i>	Arts.
Kratz, Abel Wesley,	<i>Lansdale, Pa.,</i>	Arts.
Kimber, Wm. Marmaduke Cope,	<i>Germantown, Pa.,</i>	Arts.
Lester, Bernard,	<i>Pasadena, Cal.,</i>	Mechanical Eng.
Lowry, Robert Pharo,	<i>Philadelphia, Pa.,</i>	Special.
Megear, Thomas Jefferson,	<i>Philadelphia, Pa.,</i>	Mechanical Eng.
Morris, Charles Christopher,	<i>Villa Nova, Pa.,</i>	Science.
Morris, Harold Hollingsworth,	<i>Villa Nova, Pa.,</i>	Science.
Perkins, Lindley Murray, Jr.,	<i>Baxter Springs, Kans.,</i>	Mechanical Eng.
Schabacker, Harold Messner,	<i>Erie, Pa.,</i>	Mechanical Eng.
Sheldon, Carlos Noyes,	<i>Swanton, Vt.,</i>	Arts.
Stokes, James Martin, Jr.,	<i>Moorestown, N. J.,</i>	Arts.
Thomas, John Roberts,	<i>Whitford, Pa.,</i>	Science.
Thorn, Henry Norman,	<i>Medford, N. J.,</i>	Arts.
West, Erwyn Porter,	<i>Philadelphia, Pa.,</i>	Mechanical Eng.
Wills, William Mintzer,	<i>East Dowingtown, Pa.,</i>	Arts.
Withers, Samuel Clayton,	<i>Union Deposit, Pa.,</i>	Arts.

### FRESHMAN CLASS.

Alexander, Charles Allison,	<i>Devon, Pa.,</i>	Mechanical Eng.
Bausman, Thomas Franklin,	<i>Lancaster, Pa.,</i>	Arts.
Boher, Sydney Morris,	<i>Shippensburg, Pa.,</i>	Arts.
Bushnell, Charles Stone,	<i>Philadelphia, Pa.,</i>	Mechanical Eng.
Cates, Benjamin Harold,	<i>East Vassalboro, Me.,</i>	Arts.
Cookman, Harold Holmes,	<i>New York, N. Y.,</i>	Arts.
Cox, Henry Greer,	<i>Philadelphia, Pa.,</i>	Arts.
Downing, Thomas Stalker,	<i>Wilmington, Del.,</i>	Mechanical Eng.
Eshleman, Benjamin,	<i>Lancaster, Pa.,</i>	Arts.
Evans, Ernest Mervyn,	<i>Germantown, Pa.,</i>	Arts.
Fenwick, John Bussier,	<i>Conshohocken, Pa.,</i>	Special.
Fisher, Charles Worley,	<i>Philadelphia, Pa.,</i>	Arts.
Fleming, Montgomery Ward,	<i>Bellefonte, Pa.,</i>	Arts.
Godshall, Harry Hackman,	<i>Lansdale, Pa.,</i>	Special.
Hopkins, Arthur Haddon,	<i>Haddonfield, N. J.,</i>	Arts.
Jones, Harold William,	<i>South China, Me.,</i>	Arts.



## HAVERFORD COLLEGE

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Jones, Paul,	<i>Brookline, Mass.,</i>	Arts.
Lee, Charles Smith,	<i>Philadelphia, Pa.,</i>	Arts.
Libby, Ralph Garfield,	<i>Portland, Me.,</i>	Special.
Morris, Joseph Howard,	<i>Bryn Mawr, Pa.,</i>	Mechanical Eng.
Murray, Effingham Cock,	<i>Chappagua, N. Y.,</i>	Arts.
Ohl, Frederick William,	<i>Philadelphia, Pa.,</i>	Arts.
Pearson, Ralph Lincoln,	<i>Germantown, Pa.,</i>	Mechanical Eng.
Peirce, Edmund Converse,	<i>Haverford, Pa.,</i>	Arts.
Priestman, Albert Glyndon,	<i>Germanstown, Pa.,</i>	Mechanical Eng.
Ritts, Elias,	<i>Butler, Pa.,</i>	Arts.
Scull, John Lawrence,	<i>Overbrook, Pa.,</i>	Mechanical Eng.
Slonimsky, Harry Nahum,	<i>Philadelphia, Pa.,</i>	Arts.
Smyth, Lindley, Jr.,	<i>Philadelphia, Pa.,</i>	Arts.
Spaeth, Sigmund Gottfried,	<i>Mt. Airy, Pa.,</i>	Arts.
Starkey, Glenn Wendell,	<i>North Vassalboro, Me.,</i>	Arts.
Stein, Herman Kroberger,	<i>Media, Pa.,</i>	Mechanical Eng.
Thomas, Howard Pitner,	<i>Kennett Square, Pa.,</i>	Mechanical Eng.
Tilney, Nicholas Lechmere,	<i>Orange, N. J.,</i>	Arts.
Wheeler, Victor Wayne,	<i>Penn Yan, N. Y.,</i>	Arts.
Winslow, Edwards Fayssoux,	<i>Baltimore, Md.,</i>	Arts.

1905

## SUMMARY.

Graduate Students.....	3
Seniors.....	40
Juniors.....	19
Sophomores.....	27
Freshmen.....	36

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## ADMISSION.

**Candidates for the Freshman Class are admitted on examination. No certificates are accepted.**

Examinations are held twice a year, in the Sixth and Ninth months.

They will be held at the College, except in cases of distant candidates, for whom special arrangements may be made.

In 1902 the dates will be as follows:—

*Sixth month 9th, and Ninth month 22nd.*

9-10	{	Latin Composition	1½-3	Algebra
		Elementary Physics	3-4½	Plane Geometry
10-11½		Latin Prose Authors	4½-5½	{ Greek Composition Solid Geometry
11½-12¾	{	Latin Poets		
		English History		

*Sixth month 10th, and Ninth month 23rd.*

9-11¼	{	Greek Authors	1½-3½	German
		French		
11¼-12¾	{	English	3½-4½	Greek History U. S. History
			4½-5½	Roman History

A candidate may pass a preliminary examination in some of his studies, and be examined in the remaining studies in a subsequent year. A certificate will be given for the studies passed. No student will be admitted to a preliminary examination without a certificate of preparation from his teacher, specifying the subjects in which he is prepared.

Certificates of the College Entrance Examination Board of the Middle States and Maryland will be accepted in place of corresponding Haverford examinations.

Candidates for Corporation scholarships (see page 53) must take all of their examinations not later than the Sixth month of the year of entry. Such candidates should announce their intention at least two weeks before the time of examination.

#### SUBJECTS FOR EXAMINATION.

For all Candidates :

ENGLISH.\*

I. *Reading*.—Certain books are selected for reading. The

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\* NOTE—No candidate will be accepted in English whose work is notably defective in point of spelling, punctuation, idiom, or division of paragraphs.

candidate will be required to present evidence of a general knowledge of the subject-matter. The form of examination will usually be the writing of a paragraph or two on each of several topics, to be chosen by the candidate from a considerable number set before him in the examination paper. The treatment of these topics should show the candidate's power of clear and accurate expression, and will call only for a general knowledge of the substance of the books.

The books selected for this part of the examination will be, in 1902: George Eliot's *Silas Marner*; Pope's translation of the *Iliad* (Books I, VI, XXII, and XXIV); The *Sir Roger de Coverley Papers* in the *Spectator*; Goldsmith's *Vicar of Wakefield*; Scott's *Ivanhoe*; Shakspeare's *Merchant of Venice*; Cooper's *Last of the Mohicans*; Tennyson's *Princess*; Coleridge's *Rime of the Ancient Mariner*.

In 1903: Shakspeare's *Merchant of Venice* and *Julius Cæsar*; The *Sir Roger de Coverley Papers* in the *Spectator*; Goldsmith's *Vicar of Wakefield*; Coleridge's *Ancient Mariner*; Scott's *Ivanhoe*; Carlyle's *Essay on Burns*; Tennyson's *Princess*; Lowell's *Vision of Sir Launfal*; George Eliot's *Silas Marner*.

II. *Study and Practice*.—This part of the examination presupposes the thorough study of each of the works named below. The examination will be upon the subject-matter, style, and construction.

The books selected for this part of the examination will be, in 1902 and 1903: Shakspeare's *Macbeth*; Milton's *L'Allegro*, *Il Penseroso*, *Comus*, and *Lycidas*; Burke's speech on *Conciliation with America*; Macaulay's essays on *Addison* and *Milton*.

MATHEMATICS.—Algebra, including quadratic equations and radicals; plane geometry. Solid geometry will be required of all students not presenting Greek.

SCIENCE.—Elementary physics will be required of all students presenting neither Greek nor Latin.

HISTORY.—Any two of the following may be offered, except

that candidates presenting the Greek language must also offer Greek history, and candidates presenting Latin, Roman history.

1. Greek History to the death of Alexander.
2. Roman History to the death of Marcus Aurelius.
3. English History.
4. American History, including the periods of discovery and colonization.

THE FOLLOWING LANGUAGES :\*

GREEK.—(a) Xenophon, the *Anabasis*, Books I-IV ; Homer, the *Iliad*, Books I-III, omitting the Catalogue of Ships. The examination will be designed to test the candidate's knowledge of grammatical forms and constructions, and his ability to translate into idiomatic English. (b) The translation at sight of simple Attic prose. (c) The translation into Greek of a simple English passage, based upon some portion of the Xenophon prescribed.

LATIN.—(a) Cæsar, the *Gallic War*, Books I-IV ; Cicero, the speech on the *Manilian Law*, the four against Catiline, and the speech for Archias ; Virgil, the *Æneid*, Books I-VI. The examination will be designed to test the candidate's knowledge of grammatical forms and constructions, and his ability to translate into idiomatic English. (b) The translation at sight of simple Latin prose or verse. (c) The translation into Latin of a simple English passage, based upon some portion of the Cicero or Cæsar prescribed.

GERMAN.—(a) The translation at sight of ordinary German prose. The passages set for translation must be rendered into correct, idiomatic English. (b) The translation into German of simple English sentences or of easy, connected prose, to test the candidate's familiarity with the grammar. Proficiency in grammar may also be tested by direct questions.

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\* NOTE.—Latin with Greek or German or French will be required of all candidates for the degree of Bachelor of Arts. German and French will be required for admission to the course in General Science, and Latin, German or French to the courses in Engineering and Chemistry.

The passages set for translation into English will be suited to the proficiency of candidates who have read not less than three hundred pages (including class sight readings) from the works of at least three different authors. Suggestions as to authors or books will be given if desired.

FRENCH.—(a) The translation at sight of ordinary nineteenth century French. The passages set for translation must be rendered into correct, idiomatic English. (b) The translation into French of simple English sentences or of easy, connected prose, to test the candidate's familiarity with the grammar. Proficiency in grammar may also be tested by direct questions.

The passages set for translation into English will be suited to the proficiency of candidates who have read not less than four hundred pages (including class sight readings) from the works of at least three different authors. Suggestions as to authors or books will be given if desired.

Equivalents will be accepted in all the linguistic requirements.

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Students not able to pass all of the examinations may be admitted with a few conditions.

Students not candidates for a degree may, at the discretion of the Faculty, be permitted to pursue special courses, for proficiency in which certificates may be granted ; but this permission will be given only to students of ability and character sufficient to insure their success.

Candidates may be admitted to advanced classes if found proficient in all the preliminary studies of the course. Each case will be considered on its own merits.

Every candidate must forward, together with his application, a certificate of good moral character from his last teacher ; and students from other colleges must present certificates of honorable dismissal.

## COURSES OF INSTRUCTION.

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I. COURSE IN ARTS *leading to the degree of Bachelor of Arts.*—For admission Latin is required with either Greek or German or French, and the two languages presented must be continued for two years. All courses given in any department are open as electives during the last two years on compliance with the necessary preliminaries.

II. COURSE IN SCIENCE *leading to the degree of Bachelor of Science.* This is divided into four sections :

*a. Course in General Science.*—German and French are required for admission, and are continued for at least two years. The elective list is practically the same as in the course in Arts.

*b. Course in Mechanical Engineering.*—Either German or French is required for admission. This course consists largely of mathematics, applied science, and work in the shop and drawing room.

*c. Course in Electricity.*—The conditions of admission are the same as in *b*, but electricity is substituted for the special mechanical work in the last two years.

*d. Chemical and Preparatory Medical Course.*—This course has the double purpose of training specialists in chemistry and of preparing students to enter medical schools. The latter object can also be obtained by proper elections in the courses in Arts and General Science.

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## COURSE LEADING TO THE DEGREE OF BACHELOR OF ARTS.

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In laboratory and gymnasium work two and one-half hours must be taken for each hour given below.

# HAVERFORD COLLEGE

21

## FRESHMEN.

	Hours per Week.
Greek I, or German II, or French II.....	4
Latin I.....	4
English I a, I b, II.....	3
Mathematics I a, I b .....	4
History I.....	2
Biblical Literature IV.....	1
Physiology and Physical Training.....	2

## SOPHOMORES.

	Hours per Week.	
	First Half Year.	Second Half Year.
Greek II, or German V, or French III.....	3	3
Latin II.....	3	3
English III.....	2	1
*Mathematics II a, II b, or Chemistry I.....	4	4
*Physics I, or Biology II.....	4	3
Government I.....		2
Biblical Literature II, or IV.....	1	1
Physical Training.....	1½	1½

## JUNIORS.

	Hours per Week.
Greek or Latin or Mathematics.....	3
English IV or V.....	1
Economics I.....	2
Psychology I.....	2
Biblical Literature II or III or IV.....	1
Electives .....	7

## SENIORS.

English IV or V .....	1
Philosophy X a and X b.....	2
Biblical Literature II or III or IV.....	1
Electives.....	12

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\* In place of either of these groups students who take both Greek and Latin may elect four hours of advanced Greek or Latin, or German II, or French II.

# COURSES LEADING TO THE DEGREE OF BACHELOR OF SCIENCE.

	GENERAL SCIENCE	MECHANICAL	ELECTRICAL	CHEMICAL AND PREPARATORY MEDICAL
FRESHMEN	Biblical Literature IV... *1	Biblical Literature IV... *1	Biblical Literature IV... *1	Biblical Literature IV... *1
	English Ia, Ib, II..... 3	English Ia, Ib, II..... 3	English Ia, Ib, II..... 3	English Ia, Ib, II..... 3
	History I..... 2	History I..... 2	History I..... 2	History I..... 2
	Mathematics Ia, Ib..... 4	Mathematics Ia, Ib..... 4	Mathematics Ia, Ib..... 4	Mathematics Ia, Ib..... 4
	German II..... 4	German II..... 4	German II..... 4	Latin I or German II
SOPHOMORES	French II ..... 4	or French II..... 4	or French II..... 4	or French II..... 4
		Shopwork	Shopwork	
	Biology I and Physical Training..... 2	and Drawing..... 4 Biology I and Physical Training..... 2	and Drawing ..... 4 Biology I and Physical Training..... 2	Chemistry I..... 4 Biology I and Physical Training..... 2
	Biblical Literature IV I, 1	Biblical Literature IV I, 1	Biblical Literature IV I, 1	Biblical Literature IV I, 1
	English III..... 2, 1	English III..... 2, 1	English III ..... 2, 1	English III..... 2, 1
	Mathematics IIa, IIb	Mathematics IIa, IIb..4, 4	Mathematics IIa, IIb..4, 4	
	or Chemistry I.....4, 4			
	Physics I, or Biology II.....4, 3	Physics I.....4, 3	Physics I.....4, 3	Biology II.....4, 3
	German V .....3, 3	German V	German V	Analytical Chemistry. 4, 4
	French III.....3, 3	or French III .....3, 3	or French III .....3, 3	Latin II, or German V
	Government I..... 2	Government I..... 2	Government I..... 2	or French III.....3, 3
		Shopwork	Shopwork	
	Physical Training. 1 ½, 1 ½	and Drawing .....4, 4	and Drawing.....4, 4	Physics I.....4, 4
		Physical Training. 1 ½, 1 ½	Physical Training. 1 ½, 1 ½	Physical Training. 1 ½, 1 ½



JUNIORS		Biblical Literature IV. 1	Biblical Literature IV. 1	Biblical Literature IV. 1	Biblical Literature IV. 1
Economics I.....	2				
Philosophy I.....	2				
English IV or V.....	1	English IV or V.....	1	English IV or V.....	1
Natural or Physical Science or Mathematics	6	Mathematics IIIa, IIIb. 3	Mathematics IIIa, IIIb. 3	German I	
		Engineering I or II.....	2	Engineering I or II.....	2
		Shopwork and Drawing.....	4	Electricity.....	4
				Organic Chemistry.....	2
				Analytical Chemistry or Biology or	
		Chemistry I.....	4	Physics ...	6
Electives.....	4	Electives.....	2	Electives.....	3
SENIORS		Biblical Literature IV. 1	Biblical Literature IV. 1	Biblical Literature IV. 1	Biblical Literature IV. 1
Biblical Literature IV. 1	1	Biblical Literature IV. 1	1	Biblical Literature IV. 1	1
English IV or V.....	1	English IV or V.....	1	English IV or V.....	1
Philosophy X.....	2	Philosophy X.....	2	Philosophy X.....	2
		Mathematics IV.....	3	Mathematics IV.....	3
		Engineering I or II.....	2	Electricity.....	4
		Shopwork and Drawing.....	4	Physics	
				Chemistry.....	2
				Analytical Chemistry or Biology or	
				Physics.....	7
Electives .....	12	Electives .....	3	Electives.....	3

\* Figures in these columns indicate hours per week. In laboratory, gymnasium and shop work, two and one-half hours must be taken for each hour here indicated. The double figures in the Sophomore year indicate the two half years.

## GREEK.

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Greek I and II are required, respectively, of Freshmen and Sophomores who present Greek for admission.

Courses III, IV, and V are elective for Seniors and Juniors.

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I. Lysias, *Select Orations*; Homer, *Odyssey*, Books I-XII. Sight reading. Greek composition. [Dr. Ebeling 4.]

II. Plato, *Apology*, *Crito*, and selections from *Phædo*. Sight reading; Xenophon, *Memorabilia*; Aeschylus, *Prometheus*; Euripides, *Alcestis*. [Dr. Ebeling 3.]

III. Sophocles, *Antigone*, *Œdipus Tyrannus*; Euripides, *Medea*; Aristophanes, *Frogs*. Study of other plays in English translations. [Dr. Ebeling 3.]

IV. *a.* Plato, *Gorgias* with selections from other dialogues; *b.* Demosthenes, *De Corona*. [Dr. Ebeling 3.]

V. *a.* Aeschylus, *Agamemnon*; *b.* Pindar, *Olympian Odes*; *c.* History of Lyric Poetry with illustrative reading.

[Dr. Ebeling 3.]

Courses IV and V are usually given in alternate years.

### BIBLICAL LITERATURE.

II. *Greek Testament*.—Selections from the Pauline Epistles.

[Dr. Ebeling 1.]

III. *Greek Testament*.—The Pauline Epistles. This course is continued through three years, and includes a more critical and extended study of the Epistles than is expected in Course II.

[Dr. Ebeling 1.]

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## LATIN.

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Latin I and II are required, respectively, of Freshmen and Sophomores who present Latin for admission.

Courses III, IV, V, and VI are elective for Seniors and Juniors.

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I. Cicero, *Fourth Verrine*; Virgil, *Bucolics* and *Fourth Georgic*;

Livy, Books XXI–XXII. Translation at sight. Prose composition. [Professor Mustard 4.]

II. Tacitus, *Germania* and *Agricola*; Pliny, selected letters; Horace, *Odes*. Mackail's *Latin Literature*. Translation at sight. [Professor Mustard 3.]

III. The principal Satires of Juvenal; the principal Satires and Epistles of Horace; selections from Lucretius; Cicero, *Tusculan Disputations*, Book I. Translation at sight.

[Professor Mustard 3.]

IV. Virgil, *Georgics*, Book I–II; Catullus; Terence, *Adelphoe*; Plautus, *Captivi*; Selections from the Roman Elegiac Poets. Translation at sight. [Professor Mustard 3.]

V. Tacitus, *Annals*, Books I–VI; Quintilian, *Institutio Oratoria*, Book X; Cicero, *De Natura Deorum*; Merivale's *History of the Romans under the Empire*, Vols. IV–V; Giles' *Manual of Comparative Philology*. Translation at sight.

[Professor Mustard 3.]

VI. Advanced Latin Composition. [Professor Mustard 1.]

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## ENGLISH LANGUAGE AND LITERATURE.

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English Ia, Ib, and II are required of all Freshmen; English III of all Sophomores, and English IV of all Seniors and Juniors except those electing English V. The other courses are elective for Seniors and Juniors. No student will be graduated who cannot write a creditable extemporaneous style.

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Ia. *Freshman English*.—Hill's *Rhetoric*; Genung's *Handbook of Rhetorical Analysis*. Exercises and discussions in syntax. Extemporaneous speeches. First half year.

[Professor Hancock 2.]

I b. *American Literature*.—A brief historical and critical survey

of American letters. Wendell's *Literary History of America*. Collateral readings. Weekly themes. Second half year.

[Professor Hancock 2.]

II. *Freshman English Literature*.—Lectures on the foundations of English literature, and on its development down to the time of Shakspeare. Readings and reports. [Professor Gummere 1.]

III. *Sophomore English*.—Lectures on rhetoric and the masters of English style. Readings from selected authors. Weekly themes. Extemporaneous speeches.

[Professor Hancock 2 first-half; 1 second.]

IV. *Senior and Junior Essays*.—Five essays during the year on a selected subject. These are read and criticized by the instructor in conference with the student. [Professor Hancock 1.]

V. *Advanced Themes*.—Lectures on the principles of literary art and method. Constant practice in the various forms of composition. [Professor Hancock 1.]

VI. *Forensics*.—Advanced work in extemporaneous speaking. Occasional addresses and debates. Readings in the British and the American orators. [Professor Hancock 1.]

VII. *Early English*.—Bright's *Anglo-Saxon Reader*. *Elene*. *Béowulf*. [Professor Gummere 2.]

VIII. *Middle English*.—English literature in the thirteenth and the fourteenth centuries. Chaucer's *Canterbury Tales*. English and Scottish ballads. Lectures and readings.

[Professor Gummere 2.]

IX. *Elizabethan Literature*.—The plays of Shakspeare. Lectures and readings. [Professor Gummere 2.]

X. *English Literature of the Seventeenth Century*.—Milton. Lectures and readings. [Professor Gummere 1.]

XI. *Modern English Prose Writers*. I. The eighteenth century authors: Steele, Addison, Defoe, Swift, Pope, Johnson, Goldsmith, Burke and some minor writers. II. The nineteenth century prose masters: DeQuincey, Carlyle, Arnold, Newman, Ruskin, Thackeray, Dickens, George Eliot. Lectures and collateral readings. [Professor Hancock 2.]

XII. *English Poetry of the Nineteenth Century*.—Lectures on the poets of this period. First half-year. The Romantic Poets:

Burns, Coleridge, Wordsworth, Shelley, Byron, Keats. Second half year. The Victorian Poets: Arnold, Clough, Tennyson, Browning, Swinburne. Collateral readings.

[Professor Hancock 2.]

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## GERMAN.

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German II is required of all Freshmen, and German V of all Sophomores who present German for admission.

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I. *Beginner's German*.—German grammar and reading exercises. Thomas's *German Grammar*; Guerber's *Märchen und Erzählungen*; Heyse's *L'Arrabbiata*; Sturm's *Immensee*; Hauff's *Karawane*. [W. W. Comfort 3.]

II. *Second Year German*.—A course in rapid reading of representative German writers. Baumbach's *Im Zwielicht*; Lessing's *Minna von Barnhelm*; Schiller's *Wilhelm Tell*; Goethe's *Hermann und Dorothea*, *Götz von Berlichingen* and *Sesenheim*; Heine's *Buch der Lieder*; Bürger's *Lenore*. Practice in sight-reading. In addition the members will read outside of the class Hauff's *Das kalte Herz*, Sudermann's *Frau Sorge*, von Scheffel's *Trompeter von Säckingen*, Fouqué's *Undine*.

[Professor Hancock 4.]

III. *German Prose Composition*. [Professor Gummere 2.]

IV. *Scientific German*. [Professor Gummere 2.]

V. *German Literature*.—Goethe's *Faust* and *Iphigenie*; Schiller's *Wallenstein*. Selections from classic authors. Readings.

[Professor Gummere 3.]

VI. *Middle High German*.—Paul's *Mittelhochdeutsche Grammatik*; *Das Nibelungenlied*; poems of Walther von der Vogelweide.

[Professor Gummere 2.]

## FRENCH.

French II is required of all Freshmen and French III of all Sophomores who present French for admission. French IV, V, and VI are elective courses for Juniors and Seniors.

I. *Beginner's French*.—A course to give the student a knowledge of elementary grammar and a fair reading knowledge of the language. The following books will be used: Grandgent, *The Essentials of French Grammar*; Merimée, *Colomba*; Labiche, *le Voyage de Monsieur Perrichon*; Sand, *la Mare au diable*; Coppée, *le Luthier de Crémone*. [W. W. Comfort 3.]

II. *Second Year French*.—The object of this course is to give the student a more exact knowledge of the language, and also to make him acquainted with a few specimens of the works of some of the standard French writers. Special attention will be given to composition and to sight-reading. The following books will be used: Edgren, *A Compendious French Grammar*; Marcou, *French Review Exercises for Advanced Pupils*; Daudet, *Contes*; Sandeau, *Mlle. de la Seiglière*; Dumas, *les trois Mousquetaires*; Hugo, *Hernani*; Corneille, *le Cid*; Racine, *Athalie*; Molière, *l'Avare*; La Fontaine, *Fables*; Super, *Readings from French History*. [W. W. Comfort 4.]

III. A course to afford the student an opportunity to become acquainted with a large number of universally recognized literary masterpieces that France has produced since the sixteenth century, and also to form some idea of the general development of French literature from its beginnings to the present day. A large amount of sight-reading will be done. The following books will be used: Corneille, *Polyeucte*; Racine, *Phèdre*; Molière, *les Précieuses ridicules*, *le Misanthrope*, *le Tartuffe*; Bossuet, *Oraison funèbre d'Henriette d'Angleterre*; Regnard, *le Joueur*; Voltaire, *Zaïre*; Marivaux, *le Jeu de l'amour et du hasard*; Beaumarchais, *le Barbier de Séville*; Hugo, *Poésies*, *les Misérables*; Lamartine, *Poésies*; A. de Musset, *Poésies*; Balzac, *Eugénie Grandet*; Daudet, *Tartarin de Tarascon*; Augier, *le Gendre de Monsieur Poirier*. In connection with the above, the students will be required to read

Petit de Julleville's *Leçons de littérature française*, or Duval's *Histoire de la littérature française*. [W. W. Comfort 3.]

IV. A lecture course treating the history of French literature from its origins to the present time. Especial attention is directed to the study of literary tendencies, the development of the national spirit, and the relations of the literature of France to that of other nations. A large amount of outside reading, requiring occasional written reports, is called for. This course is opened only to those students who have passed creditably in French III. [W. W. Comfort 2.]

V. A course in French conversation and advanced composition. Its object is to introduce the student to a practical knowledge of the spoken language and its idioms. The work outside of the class will consist in writing connected French prose, and in preparing to take part intelligently in the discussion of some topic previously announced. This course may be elected only after consultation with the instructor. [W. W. Comfort 2.]

VI. The object of this course is to extend the student's knowledge of the masterpieces of French literature from the Renaissance to the present time. By means of lectures and rapid readings this course will complement French III.

[W. W. Comfort 2.]

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## SPANISH.

I. An elementary course intended for those who wish the essentials of the Spanish language either for a business career or for literary work. After having mastered the principles of Spanish grammar the class will read such books as Padre Isla's *Gil Blas de Santillana*; Galdós' *Doña Perfecta*; Alarcón's *El Capitán Veneno*; Echegaray's *O' Locura o' Santidad*.

[W. W. Comfort 3.]

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## ITALIAN.

I. An elementary course for those who wish to obtain a reading knowledge of Italian. After the essentials of Italian

grammar have been mastered certain books chosen from the classic and modern writers will be read. [W. W. Comfort 3.]

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## MATHEMATICS.

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The courses in mathematics are arranged as far as possible to suit the needs of those students who (1) take them as part of their required Freshman and Sophomore work, and do not intend to proceed further in mathematics, (2) elect them as a minor subject and take either physics, engineering, or astronomy as a major subject, (3) take them as part of the required work of the Engineering course, or (4) elect them as a major subject.

Courses I, II, III, IV are given every year and XIII in alternate years. The electives to be offered in any one year will be such as the needs of the department may require. Courses on certain subjects other than those given below may be arranged by consultation either for undergraduates or graduates.

In the Library will be found some of the principal journals, treatises, and collected works. There are also libraries near by where other works and journals may be consulted. In one of the lecture rooms is a collection of mathematical models.

Courses Ia. and Ib. are required of all Freshmen. Courses IIa. and IIb. are Sophomore courses.

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Ia. *Algebra*, including the progressions, permutations and combinations, theory of quadratic equations, the binomial theorem, logarithms and the exponential, convergence and divergence of series, undetermined coefficients, partial fractions. Fine, *College Algebra*. Half-year. [Professor Reid 4.]

Ib. *Plane Trigonometry*, including the solution of triangles. Lyman and Goddard, *Plane Trigonometry*. *Solid Geometry*, and the geometry of the curves of the second degree. Cockshott & Walters, *Geometrical Treatise on Conics*. *Elements of the Theory of Equations*. Half-year. [Professor Reid 4.]



IIa. *Plane Analytic Geometry*, including that of the curves of the second degree. Tanner and Allen, *Analytic Geometry*. Half-year. [Professor Brown 4.]

IIb. *Differential Calculus*. McMahon and Snyder, *Differential Calculus*. Half-year. [Professor Brown 4.]

IIIa. *Integral Calculus*. Murray, *Integral Calculus*. Half-year. [Professor Reid 3.]

IIIb. *Integral Calculus continued. Analytic Geometry of Three Dimensions*, the plane, straight line and quadric surface. Half-year. [Professor Reid 3.]

Courses IIIa, IIIb, are required of Engineering students in their Junior year, and should, in general, be taken by students electing mathematics in the Junior year.

IV. *Introduction to Analytical Mechanics*; including the earlier parts of dynamics and statics, the motion of a particle under any forces, and the principal theorems in attractions and potential. This course is required of Engineering students in their Senior year. [Professor Brown 3.]

V. *Introduction to Modern Analytic Geometry*. Half-year. [Professor Reid 2.]

VI. *Introduction to the Theory of Functions*. Prerequisite, IIIa. [Professor Brown or Professor Reid 3.]

VII. *Differential Equations*. The subject will be treated on lines similar to those of Forsyth's text-book. Prerequisite, IIIa. Half-year. [Professor Brown 2.]

VIII. *Theory of Equations*. Burnside and Panton, *Theory of Equations*. Half-year. [Professor Reid 2.]

IX. *Advanced Algebra*. The following topics will in general be discussed: rational functions, determinants, symmetric functions, invariants, groups, and the Galois theory of algebraic equations. Weber, *Algebra*. Half-year. [Professor Reid 3.]

X. *Analytic Geometry of Three Dimensions*. Theory of surfaces and curves in space. C. Smith, *Solid Geometry*. Half-year. [Professor Reid 2.]

XI. *Fourier Series and Spherical Harmonics*; including some of the simpler applications to physical problems. Half-year. [Professor Brown 3.]

XII. *Elements of the Theory of Algebraic Numbers.*

[Professor Reid 2.]

XIII. *Theoretical Dynamics.* Prerequisites, IIIa, IIIb, IV.  
Half-year. [Professor Brown 3.]

XIV. *Descriptive Geometry.* This course is required of Engineering students and is given in the first half of alternate years.  
Half-year. [Professor Reid 2.]

XV. *Natural Philosophy.* Thomson and Tait. Half-year.

[Professor Brown 2.]

## HISTORY.

History I is required of all Freshmen. The other courses are elective for Seniors and Juniors.

I. *History of England.*—A general survey of the history of England, dealing briefly with the period preceding 1485. Emphasis is laid upon the political and constitutional phases of development. Brief written tests are given fortnightly on lectures and reading. [Professor Barrett 2.]

II. *American History.*—Colonial history to 1783.

[Professor Thomas 3.]

III. *American History.*—Constitutional and political history of the United States from 1783 to 1870. [Professor Thomas 3.]

Courses II and III are given in alternate years.

They are intended to show historical development, the relation of cause and effect, and to awaken in the students a consciousness of historic proportion, and a sound critical sense. The instruction consists chiefly of lectures, with required private reading, consultation of authorities, frequent reports in the lecture room on special reading, and occasional essays on assigned topics. The College library is well supplied with reference books and historical literature.

IV. *Medieval History*.—This course opens with a survey of the civilization of Europe at the beginning of the Middle Ages, and is followed by a description of the principal currents that flowed through that period—the decline of the Roman Empire; the Gothic invasion; the rise and fall of the Arabian civilization; the rise and decline of Charlemagne's empire; Feudalism; the Crusades; the conflict between the Empire and the Papacy.

[Dr. Bolles 2.]

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## POLITICAL SCIENCE.

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Economics I is required of all Juniors in the Arts and General Science courses. Government I is required of all Sophomores during the second half-year. The other courses in Political Science are elective for Seniors and Juniors.

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### A. ECONOMICS.

I. *Outlines of Economics*.—A general introduction to the subject. The greater part of the year is taken up with a study of the principles of the science based upon Bullock's *Introduction to the Study of Economics*, portions of Hadley's *Economics*, and other general books. The latter part of the course is devoted to applications of economic principles. [Professor Barrett 2.]

II. *Economic History of the United States*.—A general survey since 1750. A study is made of the important factors in our social, industrial, commercial, and economic life leading up to our present economic status. Among the subjects to be considered are: colonial conditions before and after the Revolution; the tariff policy and the growth of industries; the development of transportation facilities with special reference to the history and problems of railways and shipping; important measures in

our financial history ; immigration ; the present condition of the negro. This course may be taken with Economics I.

[Professor Barrett 2.]

III. *Economic Problems*.—The labor problem, socialism, and monopolies. A study is made of the factory system, labor organizations, labor legislation, courts of arbitration, etc. The history of socialism and the aims and methods of socialistic organizations are investigated. The growth of industrial combinations, as affecting labor, capital, public control and management, is considered. Half-year.

[Professor Barrett 3.]

IV. *Money*.—The ways and means of making payments and the effects produced by them upon prices, trade and industry. A study is made of the principles of money ; bank-credit and its uses in the form of deposits and different systems of bank-note issues ; paper money and the problems connected with the suspension of specie payment in the United States from 1861 to 1879, and commercial crises. Conditions in the United States receive special attention. This course may be taken profitably with Economics VI. Half-year.

[Professor Barrett 3.]

V. *Commercial Law*.—An exposition of the leading principles of the law relating to contracts ; who can make them ; what assent is needful ; what consideration is required ; how interpreted and enforced. Also the law relating to particular subjects : sales, carriage of goods and passengers, agency, partnership, negotiable paper, checks, guaranty, surety, payments, interest, shipping, insurance, deeds and loans, and corporations. Half-year.

[Dr. Bolles 2.]

VI. *Banking*.—The practice and most important legal principles of banking ; the methods of raising the capital ; modes of organizing national and state banks, savings banks, trust and finance companies ; the resources of a bank, and the modes of lending them ; the duties of its directors, president, cashier, tellers, bookkeepers and other officials ; public and private examinations and audits. The same method is pursued with respect to national and state banks, trusts and finance companies.

This course may be taken profitably with Economics IV. Half-year. [Dr. Bolles 2.]

## B. GOVERNMENT.

I. *Constitutional Government*.—A course dealing with the elementary principles of government and with the actual working of the governments of the United States and England. Large portions of Bryce's *American Commonwealth* are read and discussed by the class. Assigned readings on the English constitution are required. The work is supplemented by informal lectures. Half-year. [Professor Barrett 2.]

II. *Expenditure and Revenue*.—A description of the mode of expending and collecting the revenues of the national and state governments. The functions of government are briefly set forth and expenditures are classified. The mode of making expenditures by the different departments of the national government are then given, followed by a description of the bills appropriating money. The different kinds of taxes are next considered, the principles on which the laws are based, and the modes of administering them. The expenditures and revenues of the state are treated in the same manner. [Dr. Bolles 1.]

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# BIBLICAL LITERATURE AND PHILOSOPHY.

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## A. BIBLICAL LITERATURE.

I. *Elementary Hebrew*.—This course will not be offered until 1902-3. [Professor Ladd 2.]

II. *Greek Testament*.—Selections from the Pauline Epistles. [Dr. Ebeling 1.]

III. *Greek Testament*.—The Pauline Epistles. The course is continued through three years and covers a more critical and extended study of the epistles than is expected in Course II. [Dr. Ebeling 1.]

IV. *Biblical Literature in English*.—This course extends through four years and is required of all Freshmen, and of those members of the Sophomore, Junior and Senior classes who have not studied Greek.

The course consists of a survey of the history and literature of the Bible in English from the beginnings of Hebrew history down to the close of the Apostolic age. The history and literature are brought, as far as possible, into chronological connection. As introductory to the entire course, a part of the first year is devoted to a consideration of such subjects as the Canon of the Old and New Testaments, the Translations of the Bible, and the History and Method of the Modern Study of the Bible.

[Professor Jones 1.]

V. *The Literary Study of the English Bible*.

[Professor Gummere 2.]

## B. PHILOSOPHY.

VI. *Psychology*.—A course in general psychology. James' *Psychology* (briefer course) is used as a text book, supplemented by lectures. A short series of lectures is also given on logic.

[Professor Jones 2.]

VII. *Interpretation of the New Testament*.—This course is devoted to a search for the original message of Christianity as expressed by the writers of the Gospels and Epistles. It consists of lectures, reference reading, and theses. The work is all done in English.

[Professor Jones 2.]

VIII. *Development of Christian Thought*.—An examination of the great types of religious thought which have prevailed at different epochs in the history of the Church, such as the Alexandrian conception of Christianity, the Latin, the Calvinistic, and the Quaker conception. Lectures, readings, and theses.

[Professor Jones 2.]

IX. *History of Philosophy*.—The chief systems of philosophy from the earliest period down to modern times. The development of theories of idealism receives especial attention. The

text-books required are Weber's *History of Philosophy*, and Royce's *Spirit of Modern Philosophy*, with other reference reading. Lectures, discussions, and theses. [Professor Jones 3.]

*Xa. Ethics.*—The important ethical theories are studied historically with a view of discovering a satisfactory criterion or basis of moral action. Each student is expected to make an exposition of some one representative system. The text-book is Muirhead's *Elements of Ethics*. Lectures and theses. Half-year. [Professor Jones 2.]

*Xb. Ethics.*—This course considers current problems of practical ethics and sociology, such as politics, temperance, war, charity and prison administration, the labor question, etc., on their moral side. Half-year. [President Sharpless 2.]

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## ASTRONOMY.

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The Haverford observatory affords students the means of becoming familiar with the use of astronomical instruments, and of acquiring, from actual observation, a practical acquaintance with astronomy.

It contains two equatorial telescopes, one, by Clark, having an object-glass 10 inches in diameter, and one with an object-glass of  $8\frac{1}{4}$  inches, with filar micrometer and eye pieces; a polarizing eye-piece; a Newtonian reflector, with a silver-on-glass speculum of  $8\frac{1}{4}$  inches diameter; a prism spectroscope; a meridian transit circle having a telescope of  $3\frac{3}{4}$  inches aperture, with a circle at each end of the axis 26 inches in diameter; a zenith instrument of  $1\frac{3}{4}$  inches aperture, with a micrometer; two sidereal clocks, one with mercurial compensation, the other used to connect with a Bond's magnetic chronograph.

The latitude of the observatory is  $40^{\circ} 0' 40''$  N.; its longitude, 6 minutes 59.4 seconds east from Washington.

A special course in astronomy is offered to amateurs and teachers. The requisites for the course and the fees charged will depend on the work which the applicant desires.

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|---------------------------|------------|--------------------|
| I. Descriptive Astronomy. | Half-year. | [W. H. Collins 3.] |
| II. Practical Astronomy.  |            | [W. H. Collins 2.] |
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## BIOLOGY.

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The biological laboratory is a large, well-lighted room, which is amply equipped with microscopes, reagents, and all other necessary apparatus and appliances. It also contains about two hundred biological works and zoological, anatomical, and botanical charts.

The courses of the department are arranged so that students intending to study medicine may have every facility for preparation. Graduates who have completed the Preparatory Medical Course are admitted without examination to all medical schools, and to the second year of certain ones.

Course I is required of all Freshmen through the first quarter. Course II, or Physics I, is required of all Sophomores in the Arts and Science courses.

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|--|------------------|
| I. <i>Elementary Physiology and Hygiene.</i> | First quarter.   |
|  | [Dr. Babbitt 2.] |

II. *Elementary Biology.*—The lectures of this course are devoted to a discussion of the fundamental principles of the structure and life-processes of animals and plants, and also to some of the more important questions relating to their origin and evolution. The laboratory periods are devoted to the practical study and dissection of typical representatives of some of the greater groups of animals and plants. Many field excursions are taken in order to study animals and plants in their natural environment.

[Professor Pratt 4 first-half ; 3 second.]



Courses III to VII, inclusive, are elective, but must, with the exception of course VII, be preceded by course II.

III. *Comparative Anatomy of Vertebrates*.—One lecture and two laboratory periods a week. The laboratory work of this course includes the dissection and study of a cartilaginous and a bony fish, an amphibian, a reptile, and a mammal.

[Professor Pratt 3.]

IV. *Morphology of Invertebrates*.—This course is intended for those who may wish to make a more extended study of invertebrates than was possible in Course II. [Prof. Pratt 1 or more.]

Va. *Histology of Vertebrates*.—One lecture and two laboratory periods a week. The laboratory work of this course includes a microscopical study of vertebrate tissues. The student also learns the methods of microscopical technique, the preparation of the more important reagents, the use of the microtome, etc., and he prepares or obtains about one hundred stained and mounted tissues. First half-year.

[Professor Pratt 3.]

Vb. *Embryology of Vertebrates*.—One lecture and two laboratory periods a week. The laboratory work of this course is devoted to the study of the embryology of the chick and of the frog. Second half-year.

[Professor Pratt 3.]

Course III is given in alternate years with courses Va and Vb.

VI. *General Botany*.—One lecture and one laboratory period a week. The laboratory work of this course consists of the dissection and structural study of typical representatives of the principal groups of plants.

[Professor Pratt 2.]

VII. *Evolution and Heredity*. Lectures. [Professor Pratt 1.]

Courses VI and VII are given in alternate years.

VIII. *Human Anatomy*.—The work of the first year student in medicine on anatomical lines is thoroughly covered in this and the succeeding course. The department is equipped with a skeleton, dissectible manikin, enlarged models of the eye, ear,

throat and heart, and numerous charts to aid in practical work. A complete set of individual bones, including a disarticulated skull, affords opportunity for the study of osteology. The course is supplemented by attendance upon medical clinics and occasional visits to the anatomical museums of the city.

[Dr. Babbitt 2.]

IX. *Human Anatomy*.—A thorough study is made of the anatomy of the thorax and abdomen, with a special study of the brain and spinal cord, and, as far as time permits, a study of the eye, the ear, and the throat. In this, as in the previous course, charts are prepared by the student.

[Dr. Babbitt 2.]

Course VIII alternates with course IX.

X. *Advanced Physiology*.—While primarily intended to fill the requirements of the Preparatory Medical Course, this course is made general and is open to all Juniors and Seniors. It consists of one hour of recitation and one laboratory period a week. Suitable apparatus is provided for practical and experimental work upon muscle and nerve preparations; examination and tests of blood and secretions; production of artificial digestion; functional study of the heart, general circulation, special senses, etc. This course may be modified to suit the needs of the course in normal physical training.

[Dr. Babbitt 2.]

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## CHEMISTRY.

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The large chemical laboratory affords opportunity for elementary or advanced special work, with ample facilities for its prosecution. The professor and his assistant are in constant attendance. The laboratory work comprises elementary experiments in general chemistry; the preparation of a number of pure compounds; qualitative and quantitative analysis; and experimental work illustrating chemical laws and theories. Chemistry

I, or Mathematics IIa, IIb, is required of all Sophomores in the Arts and General Science courses. It is required of all Freshmen in the Chemical and Preparatory Medical courses, and of all Juniors in the Mechanical and Electrical courses.

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I. *Elementary General Chemistry*.—In this course students will probably have two lectures or recitations and two laboratory periods a week. The preparation, properties and uses of the more important elements and inorganic compounds are discussed in the lectures, and are illustrated by experiments. In the laboratory the time is given mainly to the preparation and study of the non-metallic elements and a few of their compounds.

[Professor Hall 4.]

II. *Qualitative Analysis*.—The exercises are mainly practical, but there is, each week, at least one lecture or examination. Although the instruction is devoted chiefly to the methods of qualitative analysis, it is expected that the student will increase materially his knowledge of general chemistry by following this course.

[Professor Hall 2 or more.]

III. *Quantitative Analysis*.—The simpler gravimetric and volumetric methods of analysis are studied. The calibration of flasks and burettes is also included.

[Professor Hall 2 or more.]

IV. *Organic Chemistry*.—This course consists of one lecture and two and one-half hours of laboratory work each week throughout the year. It will be found useful not only to those intending to become chemists, but also to students of biology and medicine.

[Professor Hall 2.]

V. *Advanced Quantitative Analysis*.—This course is a continuation of course III, but includes the analysis of silicates and other complex compounds, the examination of water, milk, butter, iron, steel, etc.

[Professor Hall 2 or more.]

PHYSICS.

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The Department of Physics occupies five rooms in the west end of Founder's Hall, well arranged both for laboratory work and for lectures. The apparatus for lecture demonstrations has been carefully chosen to illustrate the principal phenomena dealt with, and the laboratory is furnished with a large number of excellent standard forms of apparatus, among which may be mentioned a dividing engine and a comparator, both from the Geneva Society works; a Rowland plane grating spectroscope, and an optical bench for diffraction and interference experiments. The department is also well equipped with the usual forms of elementary apparatus. The electrical apparatus includes several dynamos and motors, Weston and other ammeters and voltmeters, a good variety of Thomson and D'Arsonval galvanometers, a fine Wheatstone bridge made by Eliot Brothers, together with numerous other bridges, condensers, standard units, etc. The laboratory is supplied throughout with both gas and electric light, and electric currents are obtained either from an efficient storage battery or from a dynamo.

The courses to be given in 1901-1902 are given below; additional courses may, however, be announced later.

I. *Elementary Physics*.—This course is an elective with Biology in the Sophomore year. It includes two or three lectures or recitations and one laboratory period per week throughout the year. The subjects taken up are mechanics, sound, heat, light, electricity and magnetism. *Theory of Physics* by Prof. J. S. Ames is used in the class work, and Ames and Bliss' *Experiments in Physics* is used in the laboratory. The lectures are illustrated throughout by experiments, and the laboratory work is arranged to supplement the class work. The experiments performed by the student are all quantitative in character, accurate measurement being taught in all the subjects treated. No previous knowledge of physics is required.

[Dr. Rhoads 4 first-half; 3 second.]

II. *Light*.—Spectroscopy, interference, polarization. Half-year. [Dr. Rhoads 2.]

III. *Heat*.—Thermometry, thermodynamics, change of state. Half-year. [Dr. Rhoads 2.]

IV. *Electricity and Magnetism*.—Absolute measurements, discharge through glass, radiations. Half-year. [Dr. Rhoads 2.]

V. *Properties of Matter. Sound*.—Elasticity, viscosity, surface tension, waves and vibrations. Half-year. [Dr. Rhoads 2.]

*Note.* The work in courses II, III, IV, and V is experimental, supplemented by lectures and references. Differential and integral calculus are of material assistance in the above courses, but are required in course V only. Two of these courses will be given the first half-year, and two the second half-year.

VI. *Electricity*.—Elementary instruction, by text-book and lectures, in electrical quantities and units; the principles of electrical measuring instruments, dynamos, motors, and transformers. The course includes experiments with dynamos and motors, such as making characteristic curves, the measurement of efficiency, etc. The practical phases of electricity are considered. [Professor Edwards 2.]

VII. *Electricity*.—This course is intended to follow Course VI. It begins with laboratory experiments by the student, involving the use of refined measuring instruments, and the absolute measurement of electrical quantities. It embraces also, in more detail than Course VI, the study of the design, construction and operation of dynamos, direct and alternating; the theory of the transformer, the transmission of electrical energy, and the modern applications of the electric current. The practical phases of electrical engineering, such as the wiring of buildings, the installation of electrical machinery, etc., are taken up as far as time permits. [Professor Edwards 2.]

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## GEOLOGY.

I. *Elementary Geology*.—Recitations and field work. Half-year. [Professor Pratt 3.]

This course is given the first half year and is followed by Astronomy I the second half.

ENGINEERING.

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The Engineering Department occupies a commodious stone building, three stories high, erected during the summer of 1896. The entire equipment is new and of the best quality. The wood-working room affords accommodation for fourteen students at one time. The benches are provided with quick action vises and a complete set of carpenter's tools for each student. This shop contains a 36" band saw and two wood lathes. The iron-working room contains a 24" x 12' Blaisdel engine-lathe and three smaller engine-lathes; a 24" x 24" x 6' planer; a Becker-Brainard universal milling machine; a Gould and Eberhardt 16" shaper; two drill presses; several vises and complete sets of machinists' tools for bench work. Three steam engines, two of which are tandem compounds directly coupled to 60 K. W. dynamos, together with indicators and electrical measuring instruments, afford good opportunity for engine and dynamo testing. The third story of the building is devoted to drawing, and is a commodious and well-lighted room.

The instruction begins with a series of graded exercises, which teach accuracy in the use of tools and illustrate the principles of machine construction. This is followed by practice in the construction of parts of machinery, and the building of complete machines.

The students, under the care of the professor, are taken from time to time to visit machine shops and engineering constructions in Philadelphia and vicinity.

Students in Mechanical Engineering spend at least five hours a week for four years in the shop, and students in Electrical Engineering five hours a week for two years. In addition the following technical mechanical courses are given. For the corresponding electrical course see under the head of Physics.

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I. First Half Year: a study of the construction of modern steam engines, boilers, condensers, pumps, etc., followed by the

thermo-dynamic principles involved in the operation of the steam engine. [Professor Edwards 2.]

Second Half Year : a study of the materials employed in engineering constructions, including the manufacture and properties of iron in all its commercial forms of cast iron, steel and wrought iron ; the making of alloys, the strength, elasticity and ductility of metals ; the strength of timbers, shafting, girders, trusses, etc. [Professor Edwards 2].

II. First Half Year : Descriptive Geometry. [Mathematics XIV.] [Professor Reid 2.]

Second Half Year : a study of the mechanical movements employed in machinery ; various methods of transmitting and transforming motion ; a detailed study of the teeth of wheels. This course includes a series of problems in invention to be solved by the student. [Professor Edwards 2.]

III. *Practical Mechanics*.—This course extends through four years for engineering students. It begins with simple exercises in wood-working, embracing sawing and planing, and progressing through graded exercises in joinery of all kinds, turning and pattern-making. One year is usually spent in this department, unless the student has previously had practice in wood-working.

The iron-working is begun regularly at the beginning of the Sophomore year. Bench work in filing, chipping and scraping occupies about one year, and a considerable degree of skill is required in this work, as it is the most valuable part of the course in training hand and eye for accurate mechanical work.

The remaining two years are devoted to the use of the various machine tools in executing a series of graded exercises, and finally in the construction of a complete machine, such as a lathe or engine.

[Professor Edwards, with skilled assistants, 2 or more.]

IV. *Mechanical Drawing and Machine Design*.—A course beginning with the elementary projection of solids and complicated intersections, and embracing the design of plain and bevel gear wheels (cycloidal and involute), worm gearing, marine propellers,

the Stephenson link motion for reversible steam engines, etc. The course concludes with the design of a complete steam engine and detail drawings of its working parts. Students in Mechanical Engineering spend at least five hours per week for four years in the drawing room, and students in Electrical Engineering five hours per week for two years.

[O. M. Chase 2 or more.]

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## PHYSICAL TRAINING.

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The new Gymnasium gives Haverford opportunities of physical training not enjoyed under the old conditions.

This new building contains a spacious main floor, sixty by ninety feet, abundantly equipped with the most improved American and Swedish gymnastic appliances, and circled by an inclined running track, five feet in width.

Adjoining the main floor are offices for the use of the physical director in examination and physical measurement. These rooms will be further utilized for special work by students taking advanced courses in anatomy and hygiene, preparatory to medicine, and by those electing normal courses in physical training. Adjoining the main hall, is located a large and comfortable students' reading room. Above these are a trophy room and apartments for the use of the alumni.

In the basement is a gymnasium dressing room with a number of well-ventilated lockers, toilet and washing rooms, and a swimming pool twenty-three by thirty feet.

There is a special dressing room for the use of the faculty and visiting athletic teams, and the remainder of the basement affords sufficient space for the addition of a bowling alley or other games.

All students are given a thorough physical examination upon entrance, and another at the end of the Sophomore year. They



must pass a physical eligibility standard before representing the College upon foot-ball, gymnastic or athletic teams.

The work of the Physical Department commences with a course of lectures upon anatomy, physiology and hygiene, given to the Freshmen class during the first quarter of the college year. This is followed by systematic gymnastic drill during the two succeeding quarters, four periods a week.

A similar course of three periods a week is required during the Sophomore year, and elective courses are open to Seniors and Juniors.

The student is given an option of three courses.

I. A course in modified Swedish educational gymnastics.

II. A course in general light and heavy gymnastic work similar to the work given in our large universities.

III. Regular practice with the candidates for the college gymnastic team for entrance to which gymnastic ability and physical qualifications are requisite.

For additional courses in anatomy and physiology see under the head of biology.

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## THE LIBRARY.

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The College Library now contains over thirty-nine thousand volumes, besides numerous pamphlets. It is arranged with the object of making it especially useful as a library of reference. Within the past three years the greater part of the collection has been reclassified and recatalogued according to the expansive system, and new cards have been written and arranged on the dictionary plan. The students have free access to the shelves, and the librarian and his assistants are, at all times, ready to give aid in the use of the library.

About \$1800 are expended yearly for the purchase of books and periodicals. The library is a regular depository of the United States Government, and several hundred volumes of publications are annually received. Among these are many useful and valuable works.

The following literary and scientific periodicals are taken :

Academy.	Bulletin of Bibliography.
Acta Mathematica.	Cassier's Magazine.
Advocate of Peace.	Catalogue of U. S. Public Documents.
American Cricketer.	Century Magazine.
American Friend.	Chicago Banker.
American Historical Review.	Classical Review.
American Journal of Archæology.	Columbia Studies in History, etc.
American Journal of Mathematics.	Columbia University Quarterly.
American Journal of Theology.	Commercial and Financial Chronicle.
American Journal of Philology.	Comptes Rendus de l'Académie des Sciences.
American Journal of Science.	Congressional Record.
American Machinist.	Consular Reports.
American Naturalist.	Contemporary Review.
Anglia.	Cricket.
Anglia Beiblatt.	Critic.
Annalen der Physik.	Cumulative Index.
Annals of American Academy.	Dial.
Annals of Mathematics.	Economist. (London.)
Archiv für lateinische Lexicographie.	Edinburgh Review.
Astronomical Journal.	Educational Review.
Astronomische Nachrichten.	Electrical World.
Astrophysical Journal.	Electrician.
Athenæum.	Engineering Mechanics.
Atlantic Monthly.	Englische Studien.
Australian Friend.	English Catalogue of Books.
Banner and Herald.	Era.
Beiblätter für den Annalen der Physik.	Experiment Station Record.
Beiträge zur geschichte der deutschen Sprache und Litteratur.	Expositor.
Bird Lore.	Forum.
Bookman.	Forest Leaves.
British Friend.	Fortschritte der Mathematik.
Bulletin Astronomique.	Friend (London).
Bulletin des Sciences Mathématiques.	Friend (Philadelphia).
Bulletin of American Mathematical Society.	Friends' Intelligencer and Journal.
Bulletin of the Department of Labor.	Friends' Missionary Advocate.
	Friends' Quarterly Examiner.

- Harper's Magazine.  
 Harper's Weekly.  
 Hartford Seminary Record.  
 Harvard Graduates' Magazine.  
 Herald of Peace.  
 Independent.  
 Johns Hopkins University Circulars.  
 Johns Hopkins University Studies  
     in History, etc.  
 Journal of the American Chemical  
     Society.  
 Journal of the Chemical Society.  
 Journal de Mathématiques.  
 Journal of Morphology.  
 Journal of Political Economy.  
 Journal of the Franklin Institute.  
 Journal of Germanic Philology.  
 Journal für die reine u. angewandte  
     Mathematik.  
 Journal of the Society of Chemical  
     Industry.  
 Library Journal.  
 Literary News.  
 Literaturblatt für germ. u. rom. Phi-  
     logie.  
 Littell's Living Age.  
 Mathematische Annalen.  
 Meehan's Monthly.  
 Messenger of Peace.  
 Mind.  
 Modern Language Notes.  
 Monthly Notices of Royal Astrono-  
     mical Society.  
 Monthly Summary, Commerce and  
     Finance.  
 Nation.  
 Nature.  
 Nineteenth Century and After.  
 North American Review.  
 Official Gazette of the U. S. Patent  
     Office.  
 Pedagogical Magazine.  
 Pennsylvania Magazine.  
 Philippine Review.  
 Philosophical Magazine.  
 Philosophical Review.  
 Political Science Quarterly.  
 Popular Science Monthly.  
 Present Day Papers.  
 Princeton University Bulletin.  
 Proceedings of the Academy of  
     Natural Science.  
 Proceedings of American Philoso-  
     phical Society.  
 Proceedings of the Society for Psy-  
     chical Research.  
 Psychological Review.  
 Publishers' Weekly.  
 Publications of American Economic  
     Association.  
 Publications of the Modern Language  
     Association.  
 Quarterly Journal of Economics.  
 Quarterly Journal of Mathematics.  
 Quarterly Review.  
 Review of Reviews (Amer).  
 Rheinisches Museum für Philologie.  
 Romania.  
 Science.  
 Science Abstracts.  
 Scientific American.  
 Scientific American Supplement.  
 Scribner's Magazine.  
 Sound Currency.  
 Southern Workman.  
 Spectator.  
 Transactions of the American Mathe-  
     matical Society.  
 University Record (Chicago Univ.),  
 War or Brotherhood.  
 Wochenschrift für klassische Phi-  
     logie.  
 Yale Alumni Weekly.  
 Yale University Bulletin.  
 Zeitschrift für Anorganische Chemie.  
 Zeitschrift für Physikalische Chemie.  
 Zoologisches Centralblatt.

The Library is open from 8.30 A. M. to 6 P. M. While designed especially for the use of the officers and students, others have the privilege of consulting, and, under certain restrictions, of drawing books.

The Library is under the charge of Allen C. Thomas, Librarian.

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## PUBLIC LECTURES 1900-1901.

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### HAVERFORD LIBRARY LECTURES.

DR. WILLIAM DEWITT HYDE, President of Bowdoin College, Maine.

"The Serpent and the Dove—Wisdom and Harmlessness."

Two lectures.

EDWARD GRUBB, M. A., of England.

"Outlines of the Teachings of Jesus." Two lectures.

### LECTURES ON TOPICS OF CURRENT INTEREST.

DR. CH. WARDELL STILES, Zoologist of the Department of Agriculture, Washington.

"Malaria." Delivered under the auspices of the Scientific Society.

DR. TURNER, Chaplain of Hampton Institute, Virginia.

"The Aim and Purpose of Hampton Institute." Illustrated.

JOHN B. GARRETT, Vice-President of the Lehigh Valley Railroad.

"The Anthracite Problem, with some Features of the Recent Miners' Strike."

WILLIAM L. BAILY.

"Bird Studies with a Camera." Illustrated. Delivered under the auspices of the Campus Club.

EMORY R. JOHNSON, PH. D., Member of the Isthmian Canal Commission.

“The Nicaraguan Canal.” Illustrated.

DR. ALBERT H. SMYTH, of the Philadelphia High School.

“The Ethics of Macbeth.”

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## GRADING OF STUDENTS.

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STUDENTS are classified, according to their grades, into five sections, A, B, C, D, E. Each student is notified of the section to which he has been assigned, but the grades are not published. Section E is composed of those who cannot be advanced to the next class, or receive their Bachelor's degree. Daily recitations, hour examinations, and final examinations are all utilized in determining the standing of a student.

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## ADVANCED DEGREES.

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Graduates of Haverford College of three years' standing may take the degree of Master of Arts or of Master of Science by passing an examination on some literary or scientific course of study which shall have received the approbation of the Faculty.

Candidates who are examined may also be required to hand in dissertations on topics in the field of study which they have specially investigated.

Resident graduates, who have completed an adequate course of study, may be admitted to an examination for a second degree at the expiration of one or two years.

Notice of application for examination must be given to the President two months before Commencement. The examination for non-residents will be held during the last week in Fifth month, and in no case at a later date. The fee for the Master's diploma is twenty dollars, to be paid in all cases before the 1st of Sixth month.

Adequate courses of study for the Master's degree will be arranged on application to the President.

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## EXPENSES.

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The charge for tuition, board and room rent varies with the location of the room from \$400 to \$575 a year.

The number of students for whom there is accommodation at the different rates is as follows :

Founders Hall,	15	at \$400 each.
Barclay Hall,	24	at \$450 each.
“ “	56	at \$500 each.
“ “	2	at \$525 each.
Lloyd Hall,	16	at \$575 each.

NOTE.—The rent of rooms includes steam heat, electric light, necessary bed-room furniture, and care of rooms. Students will supply their own study-room furniture, also towels and table napkins.

The charge for tuition is one hundred and fifty dollars (\$150) a year ; for tuition and mid-day meal, two hundred dollars (\$200) a year.

Books and stationery will, at the option of the student, be supplied by the College and charged on the half-yearly bills. Materials consumed and breakage in the laboratories are also charged.

Bills for board and tuition are payable, three-fifths at the beginning, and two-fifths at the middle of the college year.

SCHOLARSHIPS.

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I. Senior Scholarships. Four scholarships of the annual value of \$300 each are offered to graduates nominated by the Faculties of Earlham, Penn, Wilmington, and Guilford Colleges.

The charge for board and tuition ranges from \$400 to \$575 per year, according to the location of the room. Rooms at the former rate will be reserved until Fifth month 1st of each year for the recipients of Senior scholarships in the succeeding year.

II. I. V. Williamson Scholarships. Three scholarships of the annual value of \$400 each.

III. Richard T. Jones Scholarship. One scholarship of the annual value of \$400.

II and III are so arranged that usually only one is vacated each year and awarded to a Freshman.

IV. Corporation Scholarships. Sixteen scholarships of the annual value of \$300 each will be awarded after competitive examination. They are open to all applicants.

Details of the examination will be given on application to the President.

V. Foundation Scholarships. Eight scholarships of the annual value of \$200 each. Three of these may be given on the nomination of the Faculty of Westtown Boarding School.

VI. Edward Yarnall Scholarship. One scholarship of the annual value of \$200. Open only to Friends.

VII. Thomas P. Cope Scholarship. One scholarship of the annual value of \$200. Open only to Friends who intend to teach.

VIII. Sarah Marshall Scholarship. One scholarship of the annual value of \$200.

IX. Mary M. Johnson Scholarship. One scholarship of the annual value of \$200.

X. Isaac T. Johnson Scholarship. One scholarship of the annual value of \$200 given on the nomination of Friends' School, Fourth and West streets, Wilmington, Del.

XI. Day Scholarships. Eight scholarships of the annual value of \$100 each.

XII. One scholarship of the annual value of \$150, which may be given on the nomination of the Lower Merion High School.

XIII. Tuition Scholarships. Ten scholarships of the annual value of \$150 each, or so many of them as there may be suitable candidates therefor, will be awarded each year to Freshmen needing aid and passing satisfactory entrance examinations.

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All scholarships are given for one year only, but they may be renewed by the College (except I, X and XII) if the conduct and standing of the recipient be satisfactory.

I, X and XII will thus be vacated yearly, and about one-fourth of the others.

Except XI, XII and XIII all scholarships involve residence at the College.

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## THE HAVERFORD FELLOWSHIP.

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This fellowship, of the annual value of \$500, may be awarded by the Faculty to the best qualified applicant from the Senior class. He is required to spend the succeeding year in study at some American or foreign university approved by the Faculty.

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## PRIZES.

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### ALUMNI PRIZE FOR COMPOSITION AND ORATORY.

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The Association of the Alumni, in the year 1875, established an annual prize, either a gold medal or an equivalent value in books with a bronze medal, for excellence in composition and oratory.



The following are the rules governing the competition :

I. The Alumni medal is offered yearly to the competition of the members of the Senior and Junior classes, as a prize for the best delivered oration prepared therefor.

II. Three or five judges shall be appointed from year to year by the Alumni Committee, who shall hear publicly, in Alumni Hall, all competitors who may be qualified to appear.

III. No oration shall occupy in delivery more than fifteen minutes.

IV. In making the award, while due weight is given to the literary merits of the oration, the judges are to consider the prize as offered to encourage more especially the attainment of excellence in elocution.

V. The judges shall have the right to withhold the prize if the elocution and the literary merits of the oration fall below a creditable standard of excellence.

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#### THE EVERETT SOCIETY MEDAL.

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This silver medal is offered by the donor to the members of the two lower classes for competition in oratory. It is given in memory of the old Everett Society.

Orations shall not exceed ten minutes in delivery, shall be prepared considerably in advance, and perfectly committed to memory.

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#### JOHN B. GARRETT PRIZES FOR SYSTEMATIC READING.

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Four prizes in books, of \$40, \$30, \$20 and \$10 respectively, will be given to those members of the Junior class who, having creditably pursued their regular studies and paid proper attention to physical culture, shall have carried on the most profitable course of reading in standard authors during the Sophomore and Junior years.

The direction of the work and the decision in the award of the prizes shall be in the hands of a committee consisting of the President, the Librarian and the Professor of English.

There will be an oral examination to determine the scope and quality of the reading, and a thesis treating of subjects embraced in the course will be required.

Any or all of these prizes may be omitted if, in the judgment of the committee, the work does not justify an award.

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THE CLASS OF 1896 PRIZES IN LATIN AND MATHEMATICS.

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These are two prizes in books of \$10 each. They will be awarded at the end of the Sophomore year for proficiency in Latin and Mathematics respectively.

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PHILIP C. GARRETT PRIZES.

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These are five prizes in books of \$10 each, as follows :

1. To the most proficient student in mathematics at the end of the Senior year.
2. To the most proficient student in Greek at the end of the Freshman year.
3. To the most proficient student in Latin at the end of the Freshman year.
4. To the best writer of themes in the Sophomore class.
5. To the member of the Senior or Junior class who shall have done the most thorough and satisfactory work in biology.

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THE CLASS OF 1898 PRIZE IN CHEMISTRY.

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The Class of 1898 offers a prize of \$10 in books to the member of either the Senior or Junior class, who, in the judgment of the professor in charge, shall have done the most thorough and satisfactory work during the year in the laboratory, and in oral and written examinations.

The prize will not be awarded twice to the same student.

## HONORS.

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For the purpose of honors, studies are divided as follows :

*a.* Literary group : namely, the Greek, Latin, German and French languages, English literature, history, philosophy and political science.

*b.* Scientific group : namely, astronomy, biology, chemistry, engineering, mathematics and physics.

Candidates for honors shall elect from any two studies in one of these groups at least five hours per week during the Junior year, and eight hours per week during the Senior year, and shall announce their candidacy at the beginning of the Junior year.

*Highest Honors* and *Honors* may be given, dependent on the judgment of the professors in charge. They will base their decisions on special examinations, or on the character of the daily work.

*General Honors* are awarded for a general average of ninety per cent., or over, during the Senior and Junior years.

Honors will be announced at Commencement and in the succeeding catalogue.

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## SOCIETIES.

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The Loganian Society was established by the officers and students in 1834, and is now a debating society.

A flourishing branch of the Young Men's Christian Association, organized in 1879, has a membership embracing three-fourths of the students.

A chapter of Phi Beta Kappa, the inter-collegiate honor society, was established at the College in 1898.

The Classical Club and the Scientific Society hold occasional meetings for the reading of papers, the presentation of reports, and the discussion of such topics as may be suggested by their members.

The Campus Club is an organization of the faculty and students for promoting the study and preservation of trees, shrubs, birds and wild animals on the college property.



*The Class of 1896 Prizes in Latin and Mathematics for Sophomores and Freshmen were awarded to*

Latin (\$10.00), . . . . .	{ Henry Joel Cadbury,
Mathematics (\$10.00), . . . .	{ Harry Anthony Dominovich,
Honorable Mention, . . . . .	{ S. Norman Wilson,
	{ George Peirce.

*The Philip C. Garrett Prizes were awarded as follows:*

Senior Mathematics (\$10.00), . . . . .	{ William Orville Mendenhall,
Senior or Junior Biology (\$10.00), . . . . .	{ Walter Hallock Wood,
Sophomore Themes (\$10.00), . . . . .	Percival Nicholson,
Freshman Latin (\$10.00), . . . . .	Harry Anthony Dominovich,
Freshman Greek (\$10.00), . . . . .	Carl Noyes Sheldon,
Honorable Mention, . . . . .	Carl Noyes Sheldon,
	William Mintzer Wills.

*The Class of 1898 Prize in Chemistry (\$10.00) for Seniors or Juniors was awarded to*  
Charles Reed Cary.

## HONORS.

*Seniors elected to the Phi Beta Kappa Society:*

Clarence Walton Bankard,	George John Walenta,
Howard Valentine Bullinger,	Arthur Ralston Yearsley,
General Honors, . . . . .	Howard Valentine Bullinger.
Honors in Greek, . . . . .	Clarence Walton Bankard,
Honors in Latin, . . . . .	George John Walenta,
Honors in Greek and English, . . . . .	Howard Valentine Bullinger,
Honors in English, . . . . .	Ellis Yarnall Brown, Jr.,
Honors in Biology, . . . . .	Aaron Lovett Dewees.

### *Corporation Scholarships.*

These \$300 scholarships are awarded annually to the four students in each class having the highest average scholarship for the year. In some cases the money is applied, at the option of the holder, to students of greater financial need, the original recipient retaining the honor.

*Class of 1902.*

Richard Mott Gummere,  
William Pyle Philips,  
Alexander Guy Holborn Spiers,  
Edgar Earl Trout.

*Class of 1903.*

Henry Joel Cadbury,  
Harry Anthony Dominovich,  
George Peirce,  
Samuel Norman Wilson.

*Class of 1904.*

William Parker Bonbright,  
Chester Raymond Haig,  
Carlos Noyes Sheldon,  
William Mintzer Wills.

*Class of 1905.*

Charles Stone Bushnell,  
Thomas Stalker Downing,  
Benjamin Eshleman,  
Edmund Converse Peirce.

# LIST OF GRADUATES AND HONORARY DEGREES.

(Degrees conferred by other institutions are indicated by *italics*)

THE ONLY DEGREE GRANTED ON GRADUATION BEFORE 1877 WAS THAT OF BACHELOR OF ARTS.

## GRADUATES.

1836	1842
*Thomas F. Cock, <i>M.D.</i> , LL. D., *1896	Robert Bowne
*Joseph Walton, *1898	*Richard Cadbury, *1897
1837	*William S. Hilles, *1876
*William C. Longstreth, *1881	*Thomas Kimber, Jr., LL.D., *1890
*David C. Murray, *1885	*James J. Levick, <i>M.D.</i> , A.M., *1893
*Lindley Murray, *1897	Edmund Rodman, A. M.
*Benjamin V. Marsh, 1882	Thomas R. Rodman, <i>A. B.</i>
*Joseph L. Pennock, *1870	Benjamin R. Smith
*Robert B. Parsons, *1898	*Augustus Taber, *1898
*Charles L. Sharpless, *1882	*Caleb Winslow, <i>M. D.</i> , *1895
*Lloyd P. Smith, A. M., *1886	1843
*B. Wyatt Wistar, *1869	Robert B. Howland
1838	Francis White
*James V. Emlen, <i>M. D.</i> , *1880	*William D. Stroud, <i>M. D.</i> , *1883
*John Elliott, *1893	1844
1839	Evan T. Ellis
*Frederick Collins, *1892	*Robert B. Haines, *1895
*Thomas P. Cope, *1900	Isaac Hartshorne
*Henry Hartshorne, <i>M.D.</i> , A.M., LL.D.	1845
*1897	*Edmund A. Crenshaw, *1894
*Nereus Mendenhall, <i>M.D.</i> , *1893	*Robert Pearsall, *1849
Richard Randolph, Jr., <i>M. D.</i>	
*Charles Taber, *1887	
1840	1849
*Joseph Howell, *1889	Albert K. Smiley, A. M.
Anthony M. Kimber	Alfred H. Smiley, A. M.
*Henry H. G. Sharpless, *1870	1851
*John R. Winslow, <i>M. D.</i> , 1866	Joseph L. Bailey
1841	Philip C. Garrett
*Richard H. Lawrence, *1847	*Thomas J. Levick, *1893
*James P. Perot, *1872	Franklin E. Paige, A. M.
*Elias A. White, 1866	

## HAVERFORD COLLEGE

Zaccheus Test, *M. D.*, A. M.  
 \*James C. Thomas, *M. D.*, A. M., \*1897  
 Richard Wood

1852

\*Dougan Clark, *M. D.*, \*1896  
 Lewis N. Hopkins  
 \*William L. Kinsman, \*1899  
 William E. Newhall  
 \*James Whitall, \*1896

1853

William B. Morgan, A. M.  
 \*William H. Pancoast, *M. D.*, A. M.,  
 \*1897

1854

\*Frederick Arthur, Jr., \*1891  
 John W. Cadbury  
 John B. Garrett  
 David Scull

1855

\*Samuel Bettie, 1859  
 John R. Hubbard, A. M.

1856

Bartholomew W. Beesley  
 Joel Cadbury, Jr.  
 Jonathan J. Comfort, *M. D.*  
 \*James M. Walton, \*1874  
 Edward R. Wood, A. M.

1857

Jesse S. Cheyney, A. M.  
 \*Cyrus Mendenhall, \*1858  
 \*Stephen Wood, \*1890

1858

\*Thomas H. Burgess, \*1893  
 Thomas Clark  
 \*Daniel W. Hunt, \*1898  
 \*Samuel T. Satterthwaite, 1865  
 William G. Tyler  
 Thomas Wistar, A. M., *M. D.*  
 Ellis H. Yarnall, *L.L.B.*

1859

\*Richard W. Chase, \*1865  
 James R. Magee  
 \*Richard C. Paxson, \*1864  
 \*Edward Rhoads, *M. D.*, \*1871  
 Edward C. Sampson

\*George Sampson, \*1872  
 Abram Sharples, *M. D.*  
 Benjamin H. Smith

1860

\*Lindley M. Clark, \*1861  
 \*William B. Corbit, *M. D.*, \*1872  
 \*William M. Corlies, \*1881  
 Cyrus Lindley  
 Theodore H. Morris  
 Frederick W. Morris  
 Richard Pancoast  
 \*John W. Pinkham, *M. D.*, \*1894  
 Francis Richardson  
 Clement L. Smith, A. M., *L.L.D.*  
 James Tyson, *M. D.*, A. M.  
 Silas A. Underhill, *L.L.B.*

1861

Edward Bettie, Jr.  
 \*Henry Bettie, \*1886  
 \*Charles Bettie, \*1883  
 William B. Broomall  
 Charles H. Jones  
 \*Thomas W. Lamb, A. M., *M. D.*,  
 \*1878  
 William N. Potts  
 Jehu H. Stuart, A. M., *M. D.*  
 John C. Thomas

1862

Henry T. Coates, A. M.  
 \*Samuel A. Hadley, \*1864  
 Horace G. Lippincott  
 George C. Mellor  
 Horace Williams, *M. D.*  
 \*Isaac F. Wood, \*1895

1863

Thomas J. Battey, A. M.  
 \*George M. Coates, Jr., A. M., \*1894  
 William M. Coates  
 \*Richard T. Jones, \*1869  
 William H. Morris  
 Joseph G. Pinkham, *M. D.*, A. M.

1864

\*Franklin Angell, A. M., \*1882  
 \*William Ashbridge, *M. D.*, \*1884  
 Edward H. Coates  
 Howard M. Cooper, A. M.  
 Albin Garrett

- Morris Longstreth, *A. B., A. M., M. D.* Edward B. Taylor, *M. C. E.*  
 \*Albert Pancoast, \*1898 William S. Taylor  
 Charles Roberts James G. Whitlock  
 \*E. Pope Sampson, \*1893 Walter Wood  
 \*Edward L. Scull, \*1884 Henry Wood, *Ph. D.*  
 \*Randolph Wood, \*1876 1870  
 1865  
 John R. Bringhurst  
 \*Edward T. Brown, \*1892  
 James A. Chase  
 Joseph M. Downing  
 Arthur Haviland  
 \*David H. Nichols, \*1865  
 Henry W. Sharpless  
 \*George Smith, Jr., \*1872  
 Robert B. Taber, A. M.  
 Allen C. Thomas, A. M.  
 Benjamin A. Vail  
 Caleb Cresson Wistar  
 1866  
 A. Marshall Elliott, A. M., *Ph. D.,*  
*LL. D.*  
 Benjamin E. Valentine, *LL. B.*  
 1867  
 George Ashbridge, A. M., *LL. B.*  
 \*John Ashbridge, \*1881  
 William P. Clark, A. M., *LL. B.*  
 \*Samuel C. Collins, A. M., \*1901  
 Nathaniel B. Crenshaw  
 Charles H. Darlington, A. M.  
 \*William T. Dorsey, *M. D.*, \*1870  
 B. Franklin Eshleman  
 Richard M. Jones, A. M., *LL. D.*  
 \*Charles W. Sharpless, \*1889  
 Walter Wood  
 1868  
 Edward H. Cook  
 \*Alexis T. Cope, \*1883  
 Benjamin C. Satterthwaite  
 Louis Starr, *M. D.*  
 S. Finley Tomlinson  
 Joseph H. Wills, A. M., *M. D.*  
 1869  
 Johns H. Congdon  
 Henry Cope, A. M.  
 \*Ludovic Estes, *A. M., Ph. D.*, \*1898  
 \*Henry Evald, A. M., \*1877  
 \*William B. Kaighn, \*1876  
 Pendleton King, A. M.  
 William H. Randolph
- J. Stuart Brown  
 John E. Carey  
 Alford G. Coale  
 Howard Comfort  
 T. Allen Hilles  
 William H. Hubbard, *M. D.*  
 \*Thomas K. Longstreth, A. M.,  
 \*1883  
 Oliver G. Owen, A. M.  
 \*Charles E. Pratt, A. M., \*1898  
 David F. Rose  
 \*John D. Steele, \*1886  
 Charles Wood, A. M., *D. D.*  
 Stuart Wood, *Ph. D.*  
 1871  
 \*Henry G. Brown  
 William P. Evans, \*1893  
 John S. Garrigues  
 Reuben Haines, A. M.  
 William H. Haines  
 Joseph Hartshorne  
 Jesse F. Hoskins  
 Walter T. Moore  
 Ellis B. Reeves  
 \*Alfred R. Roberts, \*1901  
 Charles S. Taylor  
 Edward D. Thurston  
 Randolph Winslow, *M. D.*, A. M.  
 1872  
 Richard Ashbridge, *M. D.*  
 Richard T. Cadbury, *A. B., A. M.*  
 James Carey, Jr., *LL. B.*  
 Thomas S. Downing, Jr.  
 Walter Erben  
 \*Thomas Rowland Estes, \*1898  
 John E. Forsythe  
 William H. Gibbons, A. M.  
 Francis B. Gummere, *A. B., A.*  
*M., Ph. D.*  
 Caspar Wistar Haines, A. M.,  
*C. E.*  
 Abram Francis Huston  
 \*Marmaduke Cope Kimber, A. M.,  
 \*1877  
 William M. Longstreth  
 Richard H. Thomas, *M. D.*



1873

James C. Comfort  
Thomas P. Cope, Jr.  
George W. Emlen  
Joseph M. Fox

\*Henry C. Haines, 1900  
Benjamin H. Lowry, A. M.  
Alden Sampson, A. M., *A. B.*, *A. M.*  
\*Julius L. Tomlinson, A. M., \*1890

1874

\*Edward P. Allinson, A. M., \*1901  
John G. Bullock  
James Emlen  
Charles R. Hartshorne, *LL. B.*  
Samuel E. Hilles  
John B. Jones  
\*Mahlon Kirkbride, \*1889.  
Theophilus P. Price  
James B. Thompson  
Joseph Trotter

1875

Edward K. Bispham  
Alonzo Brown, A. M.  
J. Franklin Davis, A. M.  
Charles E. Haines  
\*William Hunt, Jr., \*1898  
Charles L. Huston  
Harold P. Newlin  
Walter W. Pharo  
Charles E. Tebbetts  
Miles White, Jr.

1876

Francis G. Allinson, A. M., *Ph. D.*  
David S. Bispham  
Reuben Colton  
Henry W. Dudley  
Seth K. Gifford, A. M.  
L. Lyndon Hobbs, A. M.  
Richard H. Holme  
\*Thomas William Kimber, \*1885  
Charles A. Longstreth  
J. Whitall Nicholson  
Percival Roberts, Jr.  
Frank H. Taylor, *A. B.*  
Howard G. Taylor  
\*Lewis A. Taylor, \*1881

1877

A. B.

Isaac W. Anderson  
Frederick L. Baily

Isaac Forsythe  
James D. Krider  
George G. Mercer, *LL. M.*, *J. C. D.*  
Wilson Townsend

S. B.

William F. Smith

1878

A. B.

Henry Baily, *A. B.*, *A. M.*  
Albert L. Baily  
Francis K. Carey, *LL. B.*, *A. M.*  
Edward T. Comfort  
Charles S. Crossman, *A. B.*, *LL. B.*  
Samuel Hill, *A. B.*  
Lindley M. H. Reynolds  
Daniel Smiley, Jr.  
Henry L. Taylor, A. M., *M. D.*  
John M. W. Thomas  
George W. White

S. B.

Jonathan Eldridge  
Edward Forsythe  
Cyrus P. Frazier, *A. B.*  
Robert B. Haines, Jr.  
Henry N. Stokes, *Ph. D.*

1879

A. B.

Samuel Bispham, Jr.  
\*Edward Gibbons, \*1891  
John H. Gifford, *M. D.*  
Francis Henderson, *LL. B.*  
William C. Lowry  
John B. Newkirk  
John E. Sheppard, Jr., *M. D.*

1880

A. B.

Charles F. Br    , A. M.  
Charles E. Cox, *A. M.*  
Josiah P. Edwards  
James L. Lynch  
Samuel Mason, Jr.  
William F. Perry  
Joseph Rhoads, Jr., A. M.

S. B.

William Bishop  
Alexander P. Corbit  
Charles E. Gause, Jr.  
Edward M. Jones

- 1881  
A. B.  
William A. Blair, *A. M.*  
A. Morris Carey  
Levi T. Edwards, *A. M.*  
Edward Y. Hartshorne  
Isaac T. Johnson, *A. M.*  
Edwin O. Kennard  
Jesse H. Moore  
William E. Page  
Walter F. Price, *A. M.*, *A. M.*  
Thomas N. Winslow  
John C. Winston  
S. B.  
Walter Brinton  
William H. Collins, *A. M.*  
Joseph Horace Cook  
Davis H. Forsythe  
Albanus L. Smith  
1882  
A. B.  
George A. Barton, *A. M.*, *A. M.*, *Ph. D.*  
Isaac M. Cox  
Richard B. Hazard  
Wilmot R. Jones  
\*Wilmer P. Leeds, \*1885  
J. Henley Morgan  
Edward Randolph  
S. B.  
John E. Coffin  
Daniel Corbit  
George L. Crosman  
Frederick D. Jones  
T. Chalkley Palmer  
Lindley M. Winston  
1883  
A. B.  
John Blanchard, *LL. B.*  
Frank E. Briggs  
George H. Evans  
Francis B. Stuart  
Bond V. Thomas  
Thos. K. Worthington, *LL. B.*, *Ph. D.*  
S. B.  
William L. Bailly  
Stephen W. Collins, *LL. B.*  
D. William Edwards  
William E. Scull  
\*Samuel B. Shoemaker, *M. D.*,  
\*1893  
John S. Spruance  
W. Alpheus White  
Charles H. Whitney  
Louis D. Whitney  
1884  
A. B.  
John Henry Allen, *A. M.*  
Orren William Bates  
Thomas Herbert Chase  
William J. Haines  
Arthur D. Hall  
Charles D. Jacob  
Alfred Percival Smith, *A. B.*,  
*LL. B.*  
S. B.  
Louis T. Hill  
Walter L. Moore  
George Vaux, Jr., *LL. B.*  
L. B.  
Francis A. White  
1885  
A. B.  
Samuel Bettie  
\*Enos L. Doan, \*1900  
William T. Ferris  
William S. Hilles  
William T. Hussey  
Arthur W. Jones, *A. M.*, *A. M.*  
Rufus M. Jones, *A. M.*, *Litt. D.*  
Joseph L. Markley, *A. M.*, *A. M.*,  
*Ph. D.*  
Marriott C. Morris  
Augustus T. Murray, *Ph. D.*  
Augustus H. Reeve  
William F. Reeve  
Isaac Sutton, *A. M.*  
Elias H. White, *LL. B.*  
William F. Wickersham, *A. M.*  
S. B.  
Charles W. Bailly  
John J. Blair  
Thomas Newlin, *A. M.*  
Theodore W. Richards, *A. M.*,  
*Ph. D.*  
\*Matthew D. Wilson, \*1891

1886

A. B.

Jonathan Dickinson, Jr., A. M.  
 Alexander H. Scott  
 Horace E. Smith  
 Edward D. Wadsworth, LL. B.

S. B.

\*Thomas W. Betts, \*1893  
 Guy R. Johnson  
 William S. McFarland  
 \*Israel Morris, Jr., \*1894  
 William P. Morris  
 \*Alfred M. Underhill, Jr., \*1901  
 Wilfred W. White

1887

A. B.

J. Howe Adams, M. D.  
 Edward B. Cassatt  
 William H. Futrell, LL. B.  
 Alfred C. Garrett, A. B., A. M.,  
*Ph. D.*  
 Henry H. Goddard, A. M., *Ph. D.*  
 Willis Hatfield Hazard, A. M., *Ph. D.*  
 Barker Newhall, A. M., *Ph. D.*  
 Jesse E. Phillips, Jr., A. M.  
 Henry W. Stokes  
 Frederic H. Strawbridge  
 Richard J. White  
 \*George B. Wood, \*1894  
 William C. Wood

S. B.

\*Arthur H. Baily, \*1889  
 Charles H. Bedell, A. M.  
 Allen B. Clement, A. M., LL. B.  
 Horace Y. Evans, Jr.  
 Hugh Lesley  
 \*William W. Trimble, \*1891

B. E.

P. Hollingsworth Morris

1888

A. B.

E. Morris Cox  
 Howell S. England, A. M.  
 Allison W. Slocum, A. M.  
 Martin B. Stubbs, A. M., *Ph. D.*

S. B.

Charles H. Battey  
 John C. Corbit, Jr.  
 Morris E. Leeds.  
 William Draper Lewis, LL. B.,  
*Ph. D.*  
 Henry V. Gummere, A. M.  
 Francis C. Hartshorne, A. M.,  
*LL. B.*  
 Joseph T. Hilles  
 George Brinton Roberts  
 Joseph W. Sharp, Jr.

B. E.

Lawrence P. Beidelman  
 Joseph E. Johnson, Jr., M. E.  
 Frederick W. Morris, Jr.  
 Richard J. Morris

1889

A. B.

Robert C. Baner  
 Thomas E. Branson, M. D.  
 Charles H. Burr, Jr., A. M., LL. B.  
 Thomas Evans  
 Warner H. Fite, *Ph. D.*  
 Warren C. Goodwin  
 Victor M. Haughton  
 Franklin C. Kirkbride  
 Daniel C. Lewis  
 Lawrence J. Morris  
 William F. Overman  
 Frank W. Pierson, A. M.  
 Samuel Prioleau Ravenel, Jr.,  
*LL. B.*  
 Walter George Reade  
 Lindley M. Stevens, A. M.  
 John Stoddell Stokes  
 \*Layton W. Todhunter, \*1889  
 Frederick N. Vail, A. M.  
 Gilbert C. Wood

S. B.

William R. Dunton, A. M., M. D.  
 Arthur N. Leeds, A. M.  
 J. Henry Painter  
 David J. Reinhardt  
 Frank E. Thompson, A. M.

B. E.

Herbert Morris

1890

A. B.

Edward M. Angell, LL. B.  
 James Stuart Auchincloss

William G. Audenried, Jr.  
 Henry R. Bringham, Jr.  
 Charles T. Cottrell, A. M., *LL. B.*  
 Guy H. Davies  
 Robert E. Fox  
 Henry L. Gilbert, A. M., *Ph. D.*  
 William G. Jenkins  
 \*Thomas S. Kirkbride, Jr., *M. D.*, \*1900  
 Jonathan M. Steere, A. M.

## S. B.

Thomas Amory Coffin  
 Percy C. Darlington  
 William M. Guilford, Jr.  
 John N. Guss  
 Edwin J. Haley, A. M.  
 Robert R. Tatnall, A. M., *Ph. D.*  
 Dilworth P. Hibberd, A. M., *LL. B.*  
 Alfred C. Tevis.

## B. E.

John F. Taylor Lewis  
 Edward R. Longstreth  
 William Percy Simpson  
 \*Ernest Forster Walton, \*1902

1891

## A. B.

Harry Alger  
 David H. Blair  
 Henry A. Todd

## S. B.

William W. Handy  
 Arthur Hoopes  
 John Wetherill Hutton, A. M.  
 David L. Mekeel, M. E.  
 John Stokes Morris, A. M.  
 George Thomas, 3rd.

1892

## A. B.

Richard Brinton  
 I. Harvey Brumbaugh, *A. B.*  
 Benjamin Cadbury, A. M.  
 Joseph Henry Dennis  
 Warren H. Detwiler, A. M.  
 Rufus Hacker Hall, *M. D.*  
 Walter Morris Hart, A. M.  
 Gilbert Joseph Palen, *M. D.*  
 Ralph Warren Stone  
 W. Nelson Loflin West, *LL. B.*  
 Stanley Rhoads Yarnall, A. M.

## S. B.

Augustine W. Blair, A. M.  
 Egbert Snell Cary  
 Minturn Post Collins  
 Charles Gilpin Cook, A. M., *Ph. D.*  
 William Pearson Jenks  
 Franklin McAllister  
 John Wallingford Muir  
 William Hopkins Nicholson, Jr.  
 William Ellis Shipley  
 Joseph Remington Wood, *Ph. G.*,  
 A. M.

1893

## A. B.

Leslie Albert Bailey, A. M.  
 \*John Farnum Brown, \*1894  
 Wilbur Albert Estes  
 Walter Winchip Haviland  
 Clarence Gilbert Hoag, *A. B.*,  
*A. M.*  
 Carroll Brinton Jacobs, *LL. B.*  
 George Lindley Jones  
 Charles Osborne  
 Charles James Rhoads  
 Eugene M. Wescott  
 \*Franklin Whitall, \*1894  
 Gifford King Wright

## S. B.

Francis F. Davis, A. M.  
 Arthur Vickers Morton  
 John Mickle Okie  
 Edward Rhoads, *Ph. D.*  
 John Roberts  
 Barton Sensenig  
 William Sansom Vaux, Jr.  
 Edward Woolman

1894

## A. B.

George A. Beyerle  
 Charles Collius, *LL. B.*  
 William Wistar Comfort, *A. B.*,  
*A. M.*  
 John Allen DeCou, *A. B.*, A. M.  
 Clifford Bailey Farr, *M. D.*  
 John Paul Haughton  
 James Edward Hughes  
 Louis Jaquette Palmer  
 Frank Clayton Rex  
 Frederick Pearce Ristine  
 Francis Joseph Stokes  
 David Shearman Taber, Jr.  
 Parker Shortridge Williams

S. B.

J. Henry Bartlett  
 Oscar Marshall Chase, S. M.,  
 Henry Shoemaker Conard, A. M., *Ph. D.*,  
 George Brookhouse Dean, *M. D.*  
 Kane Stovell Green  
 Anson Burlingame Harvey, A. M.  
 Samuel Wheeler Morris  
 Edward Entwisle Quimby  
 Henry Wismer Scarborough, A. M.,  
*LL. B.*

William Justice Strawbridge

1895

A. B.

Samuel Bettle, Jr.  
 Edmund Blanchard, Jr., *LL. B.*  
 Samuel Hulme Brown  
 Frank Henry Conklin  
 Charles Howland Cookman  
 James Linton Engle  
 Joseph Spragg Evans, Jr., *M. D.*  
 Henry John Harris  
 George Lippincott, *A. B.*

S. B.

William Goodman, *A. B.*  
 Arthur Moorhead Hay  
 Erroll Baldwin Hay  
 William Smedley Hillis  
 John Bacon Leeds  
 Charles Clifford Taylor  
 Allen Curry Thomas, A. M., *LL. B.*  
 Henry Evan Thomas  
 Walter Coates Webster

1896

A. B.

Douglas Howe Adams, *A. B.*  
 George Raymond Allen  
 Milton Clauser  
 Arthur Fernandez Coca, A. M., *M. D.*  
 George Henry Deuell  
 Thomas Harvey Haines, A. M., *A. M.*,  
*Ph. D.*  
 John Ashby Lester, A. M., *A. M.*, *Ph. D.*  
 Paul D. I. Maier, *LL. B.*  
 Joseph Henry Scattergood, *A. B.*  
 Levi Hollingsworth Wood, *LL. B.*

S. B.

William Kite Alsop  
 William Henry Bettle  
 Samuel Kriebel Brecht  
 Mark Brooke

Albert Dempsey Hartley  
 Charles Russell Hinchman  
 John Quincy Hunsicker, Jr.  
 Samuel Middleton  
 \*Charles Dickens Nason, *Ph. D.*,  
 \*1901  
 Marshall Warren Way, *LL. B.*  
 Homer Jephtha Webster, A. M.

1897

A. B.

Richard Cadbury Brown, *A. B.*,  
*A. M.*  
 Morton Pennock Darlington  
 Elliot Field  
 Vincent Gilpin, *A. B.*  
 Benjamin Rose Hoffman  
 Charles Henry Howson, *LL. B.*  
 John Elias Hume, *M. D.*  
 Francis Norton Maxfield  
 Roswell Cheney McCrea, *A. M.*,  
*Ph. D.*  
 Ottis Earl Mendenhall, A. M.  
 Warren Brown Rodney  
 Edward Thomas  
 Henry Alva White

S. B.

William John Burns  
 Morris Burgess Dean  
 Frank Hughes Detwiler  
 Francis Brinton Jacobs, *M. D.*  
 George Martin Palmer  
 Charles Gibbons Tatnall  
 William Jordan Taylor  
 Frank William Thatcher

1898

A. B.

James Edgar Butler  
 William Warder Cadbury, A. M.  
 Alfred Sharpless Haines  
 Joseph Howell Haines  
 Arthur Search Harding, *A. B.*  
 Samuel Horace Hodgins  
 Walter Coggeshall Janney  
 Morris Mathews Lee  
 Oscar Peyton Moffitt  
 Samuel Rhoads, *M. D.*  
 Alfred Garrett Scattergood, *A. B.*  
 Frederick Stadelman  
 Ira Isbon Sterner, A. M.  
 Frederick Asa Swan  
 Robert North Wilson  
 Thomas Wistar  
 Richard Davis Wood

## S. B.

Richard Stanton Ellis  
John Gyger Embree  
Davis Godfrey Jones  
Eldon Roxy Ross  
Francis Reeves Strawbridge  
Joseph Wright Taylor

1899

## A. B.

William John Bawden  
Walter Elihu Blair  
William Bode  
Royal Jenkins Davis, *A. B.*  
Francis Algernon Evans  
Rufus Horton Jones  
Arthur Clement Wild  
Howard Haines Lowry, *A. B.*  
Edward Hough Lycett  
Joseph Paul Morris  
Herbert Clinton Petty  
Malcolm Augustus Shipley, Jr.  
Frank Keller Walter, *A. M.*

## S. B.

William Aldrich Battey  
John Darlington Carter, *A. M.*  
\*Edward B. Conklin, \*1900  
Benjamin Satterthwaite DeCou  
Alfred Collins Maule  
Ralph Mellor  
John Howard Redfield, Jr.  
Elisha Roberts Richie

1900

## A. B.

William Williams Allen, Jr.  
William Brown Bell  
Robert Jones Burdette, Jr.  
Charles Henry Carter, *A. M.*  
John Pim Carter, *A. M.*  
Francis Reeve Cope, Jr., *A. B.*  
Henry Sandwith Drinker, Jr., *A. B.*  
John Thompson Emlen  
Frank Mercur Eshleman  
Edward Dale Freeman  
Henry McLellan Hallett  
James Smith Hiatt  
Walter Swain Hinchman, *A. B.*

Horace Howard Jenks  
Henry Lewis d'Invilleiers Levick  
Frank Eugene Lutz  
Samuel Wright Mifflin, *A. B.*  
J. Kennedy Moorhouse  
Heber Sensenig  
Frederic Cope Sharpless  
Edward Ballinger Taylor, Jr.  
Joseph McFerran Taylor

## S. B.

Charles Jackson Allen  
Christian Febiger  
William Warner Justice, Jr., *A. B.*  
Jonathan Irving Peelle  
Abram Gibbons Tatnall  
Wilfred Wallace White

1901

## A. B.

Clarence Walton Bankard  
Ellis Yarnall Brown, Jr.  
Howard Valentine Bullinger  
John Warder Cadbury, Jr.  
William Edward Cadbury  
James Keyser DeArmond  
Aaron Lovett Dewees  
Alfred Edgar Freeman  
William Orville Mendenhall  
Clement Orestes Meredith  
William LaCoste Neilson  
Richard Patton  
Edward Marshall Scull  
Wayne Sensenig  
Frederick William Sharp  
George John Walenta  
John Leiper Winslow  
Walter Hallock Wood  
William Wellington Woodward

## S. B.

William Sagehorn Baltz  
Clifton O'Neal Carey  
Lawrence Washburn DeMotte  
William Howard Kirkbride  
Walter Mellor  
Edward Collins Rossmässler  
Calvin Cicero Rush  
William Wayne Wirgman  
Arthur Ralston Yearsley

Whole number of graduates, 703.

The following resident graduate students have received advanced degrees, not having been undergraduates at Haverford :

## 1890

- William B. Eaton, A. B., Wesleyan, 1889, A. M.  
 Charles L. Michener, A. B., Penn, 1884, A. M.  
 Charles E. Pritchard, A. B., Earlham, 1889, A. M.  
 Robert W. Rogers, A. B., Johns Hopkins, 1887, Ph. D.  
 William C. Sayrs, A. B. Wilmington, 1889, A. M.  
 \*Charles E. Terrell, A. B. Wilmington, 1888, A. M., \*1901  
 Charles H. Thurber, Ph. B., Cornell, 1886, A. M.

## 1891

- Lawrence W. Byers, A. B., Penn, 1890, A. M.  
 \*William H. Carroll, A. B., Wilmington, 1890, A. M., \*1897  
 Myron F. Hill, A. B., Harvard, 1890, A. M.  
 Lucian M. Robinson, A. B., Harvard, 1882, A. M.

## 1892

- Elmer A. Gifford, S. B., Penn, 1888, A. M.  
 Byron Charles Hubbard, S. B., Earlham, 1891, A. M.

## 1893

- Irving Culver Johnson, S. B., Penn, 1892, A. M.  
 Leonard Charles Van Noppen, A. B., Guilford, 1890, B. L. Univ. N. C.  
 1892, A. M.

## 1894

- Franklin A. Dakin, A. B., Harvard, 1882, A. M.  
 William W. Hastings, A. B. and A. M., Maryville, 1886 and 1892, A. M.  
 Mahlon Z. Kirk, S. B. Penn, 1893, A. M.  
 Arthur R. Spaid, A. B., Wilmington, 1893, A. M.  
 Edwin Mood Wilson, A. B., Guilford, 1892, A. B., Univ. N. C. 1893, A. M.

## 1895

- Ira O. Kemble, S. B., Penn, 1894, A. M.  
 John Oscar Villars, S. B., Wilmington, 1894, A. M.  
 \*Roy Wilson White, S. B., Earlham, 1894, A. M., \*1900

## 1896

- James Addison Babbitt, A. B., Yale, 1893, A. M.  
 Arthur Matthew Charles, S. B., Earlham, 1894, A. M.  
 Horace Thornburg Owen, A. B., Hamilton, 1895, A. M.  
 Luther Milton Hunt, S. B., Wilmington, 1895, A. M.  
 Clement Finney Patterson, Ph. B., Penn, 1895, A. M.  
 William W. Hastings, A. B. and A. M., Maryville, 1886, 1892, A. M.,  
 Haverford, 1894, Ph. D.

1897

William Otis Beale, S. B., Earlham, 1896, A. M.

Frank Whittier Else, A. B., Penn, 1896, A. M.

Paul Tasso Terrell, S. B., Wilmington, 1896, A. M.

1900

Frank Herbert Loud, A. B., Amherst, 1873, A. M., Harvard, 1899, Ph. D.

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## HONORARY DEGREES.

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1858

\*Hugh D. Vail, A. M., \*1900

1859

\*Joseph W. Aldrich, A. M., \*1865

1860

\*John G. Whittier, A. M., \*1892

1864

\*Edward D. Cope, A. M., \*1897

1867

Joseph Moore, A. M.

1872

William Jacobs, A. M.

1875

\*Samuel Alsop, Jr. A., M., \*1888

1876

\*Pliny E. Chase, LL. D., \*1886

\*William H. Pancoast, A. M., \*1897

1877

\*John J. Thomas, A. M., \*1895

1879

Richard M. Jones, A. M.

Ellis Yarnall, A. M.

1880

\*Thomas Chase, LLT. D., \*1892

\*Thomas Hughes, LL. D., \*1896

1882

Henry T. Coates, A. M.

1883

\*Thomas F. Cock, LL. D., \*1896

James Wood, A. M.

Henry N. Hoxie, A. M.

1884

\*Joseph Parrish, A. M., \*1893

\*Elijah Cook, A. M., \*1900

1885

\*Julius L. Tomlinson, A. M., \*1890

Robert Howland Chase, A. M.

1886

Edward H. Magill, LL. D.

1887

\*Thomas Kimber, LLT. D., \*1890

1878

Clement L. Smith, LL. D.

1890

Joseph J. Mills, LL. D.

1891

Richard M. Jones, LL. D.

1895

\*Henry Trimble, A. M., \*1897

1900

J. Rendel Harris, LL. D.



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1889-90,	{ CHARLES H. BURR
	{ FRANK E. THOMPSON
1890-91,	DILWORTH P. HIBBERD
1891-92,	DAVID LANE MEKEEL
1892-93,	STANLEY RHOADS YARNALL
1893-94,	FRANCIS F. DAVIS
1894-95,	HENRY S. CONARD
1896-97,	JOHN A. LESTER
1897	ABOLISHED

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FELLOWSHIP.

- 
- 1897-98, JOHN ASHBY LESTER, at Harvard University.  
1898-99, MORRIS MATHEWS LEE, at Harvard University.  
1899-1900, JOHN DARLINGTON CARTER at Johns Hopkins University.  
1900-1901, WILLIAM BROWN BELL, at Columbia University.  
1901-1902, HOWARD VALENTINE BULLINGER, at Harvard University.





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